

PRELIMINARY REPORT OF 070127

last update on Sat Jan 27 16:27:02 GMT 2007

Due to an ASAR test acquisition campaign, the daily analysis on WVS products will be based on IS4 instead of IS2 during the following periods:

From orbit 25621 (23-Jan-2007) to 25720 (30-Jan-2007) in HH polarization
From orbit 26122 (27-Feb-2007) to 26221 (06-Mar-2007) in HH polarization
From orbit 25721 (30-Jan-2007) to 25820 (06-Feb-2007) in VV polarization
From orbit 26222 (06-Mar-2007) to 26321 (13-Mar-2007) in VV polarization

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1 - Introduction

This report is based on the analysis of wave mode level-1 cross spectra (ASA_WVS_1P), global monitoring products (ASA_GM1_1P), which are the available few hours after the acquisition, on the browse (BP) products and on the Module Stepping (MS) product.

2 - Summary

2.1 - Instrument Unavailability

No unavailabilities during the reported period.

2.2 - Auxiliary files

Summary of the auxiliary files used from 2007-01-26 00:00:00 to 2007-01-27 16:27:02

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	41	71	9	3	22
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	41	71	9	3	22
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	41	71	9	3	22
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	41	71	9	3	22

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	44	55	37	15	57
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	44	55	37	15	57
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	44	55	37	15	57
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	44	55	37	15	57

2.3 - Browse Visual Inspection

2.4 - Data Analysis

- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

3 - Module Stepping Mode

No anomalies observed on available MS products:

Polarisation	Start Time
V	20070126 055505
H	20070127 084440

MSM in V/V polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
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⊗	
⊗	
⊗	
⊗	

MSM in H/H polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
⊗	
⊗	
⊗	
⊗	

4 - Internal calibration Results

No anomalies observed.

4.1 - Daily statistics

4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS
⊗
⊗

4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1
⊗
⊗

4.2 - Cyclic statistics

4.2.1 - Evolution for WVS

Evolution of cal pulses for WVS

P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1a	-11.708536	0.043411	0.353663
7	P1a	-10.009073	0.040509	0.550014
11	P1a	-10.508263	0.053951	-0.077590
15	P1a	-10.762507	0.116273	-1.136098
19	P1a	-15.800000	0.060813	-0.635538
22	P1a	-21.528223	1.938844	3.512403
26	P1a	-15.577798	0.368330	0.480284
30	P1a	-18.145987	0.287136	-1.032197

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-4.033152	0.011340	0.253341
7	P1	-2.544107	0.005301	0.055414
11	P1	-2.953899	0.010870	0.077719
15	P1	-3.741087	0.020776	-0.187575
19	P1	-3.614210	0.014738	-0.294991
22	P1	-5.093823	0.018867	-0.019490
26	P1	-5.984408	0.021025	-0.181143
30	P1	-5.326136	0.041779	0.480906

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.206444	0.095740	0.144859
7	P2	-22.106449	0.138278	0.086023
11	P2	-10.989073	0.081133	0.079746
15	P2	-5.149534	0.103364	0.568626
19	P2	-7.276657	0.086675	0.165613
22	P2	-8.340111	0.081347	0.088007

26	P2	-24.333662	0.076178	-0.040926
30	P2	-21.701141	0.078843	0.445927

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.225888	0.007468	-0.070204
7	P3	-8.225888	0.007468	-0.070204
11	P3	-8.225888	0.007468	-0.070204
15	P3	-8.225888	0.007468	-0.070204
19	P3	-8.225888	0.007468	-0.070204
22	P3	-8.225888	0.007468	-0.070204
26	P3	-8.225888	0.007468	-0.070204
30	P3	-8.225888	0.007468	-0.070204

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1
✕

P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1a	-11.729319	0.063841	-0.061581
7	P1a	-10.026377	0.072661	0.028180
11	P1a	-10.382920	0.074604	-0.147633
15	P1a	-10.754228	0.148871	-0.128581
19	P1a	-15.753015	0.085591	-0.033343
22	P1a	-21.424068	1.488485	0.754093
26	P1a	-15.863950	0.323975	0.630164
30	P1a	-18.018028	0.381009	-0.546596

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.920176	0.011486	-0.012150
7	P1	-2.460088	0.050131	0.074478

11	P1	-2.828068	0.014553	-0.025490
15	P1	-3.729186	0.031526	-0.120113
19	P1	-3.552985	0.017488	-0.020849
22	P1	-5.005062	0.021717	-0.044320
26	P1	-6.038655	0.022646	0.024914
30	P1	-5.341384	0.034096	0.052274

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.383844	0.073919	0.214704
7	P2	-22.153296	0.147196	0.206162
11	P2	-10.797824	0.073567	0.187417
15	P2	-4.929008	0.158012	0.156182
19	P2	-6.917522	0.140518	0.114745
22	P2	-8.212048	0.086589	0.079743
26	P2	-24.328701	0.113174	0.114237
30	P2	-21.871031	0.109174	0.153826

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.080469	0.002764	0.046621
7	P3	-8.080153	0.002759	0.046189
11	P3	-8.080288	0.002765	0.046672
15	P3	-8.080256	0.002762	0.046322
19	P3	-8.080230	0.002766	0.046853
22	P3	-8.080380	0.002763	0.045799
26	P3	-8.080420	0.002766	0.046938
30	P3	-8.080310	0.002762	0.046403

4.3 - cal pulses monitoring (all rows)

4.3.1 - Evolution for WVS



4.3.2 - Evolution for GM1



5 - RAW data statistics

No anomalies observed.

5.1 - Input mean I/Q

channel	stat	DSS-B
MEAN I	mean	0.000578280
	stdev	1.74014e-07
MEAN Q	mean	0.000495317
	stdev	2.06505e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.130320
	stdev	0.00186820
STDEV Q	mean	0.130628
	stdev	0.00189865



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007012[567]

The assumption is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20070125_015755_000000802055_00031_25636_3224.N1	1	19
ASA_WSM_1PNPDE20070125_024515_000000852055_00032_25637_2992.N1	50	10096



ASA_WSM_1PNPDE20070125_152549_000001832055_00040_25645_3606.N1	0	28
ASA_WSM_1PNPDE20070125_170441_000000862055_00041_25646_3646.N1	0	18
ASA_WSM_1PNPDE20070126_145411_000000852055_00054_25659_4744.N1	0	34





7 - Doppler Analysis

Preliminary report. The data is not yet controlled

7.1 - Unbiased Doppler Error for WVS

Evolution of unbiased Doppler error (Real - Expected)	
	
	Acsending
	
	Descending

7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler	
	
	Acsending
	
	Descending

7.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX	
	

7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)	
<input type="checkbox"/>	
	Ascending
<input type="checkbox"/>	
	Descending

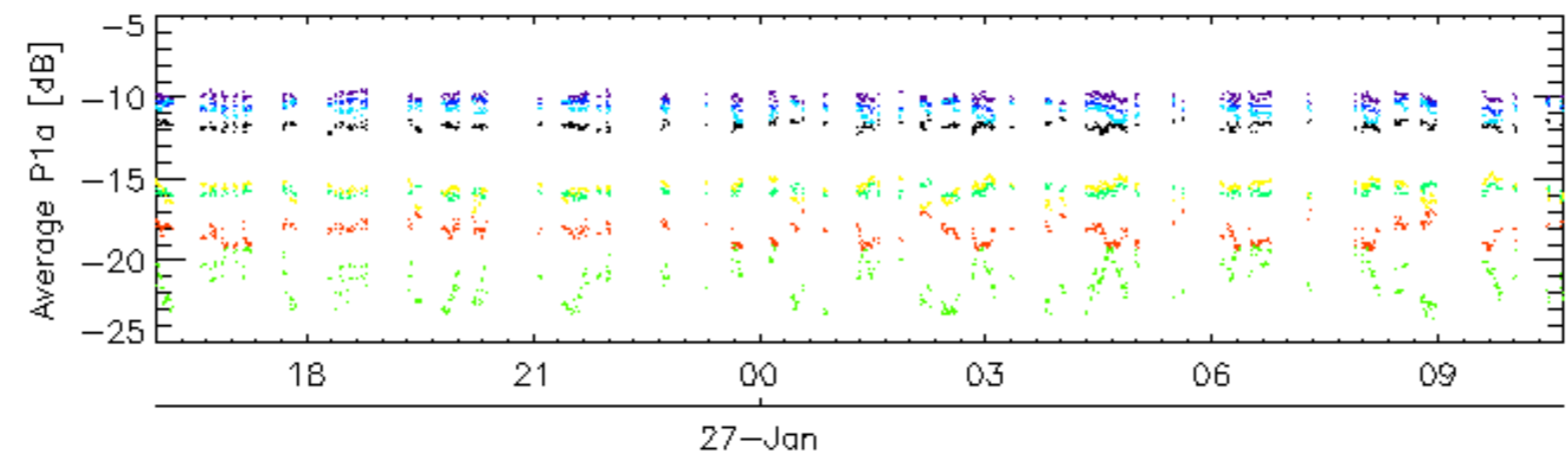
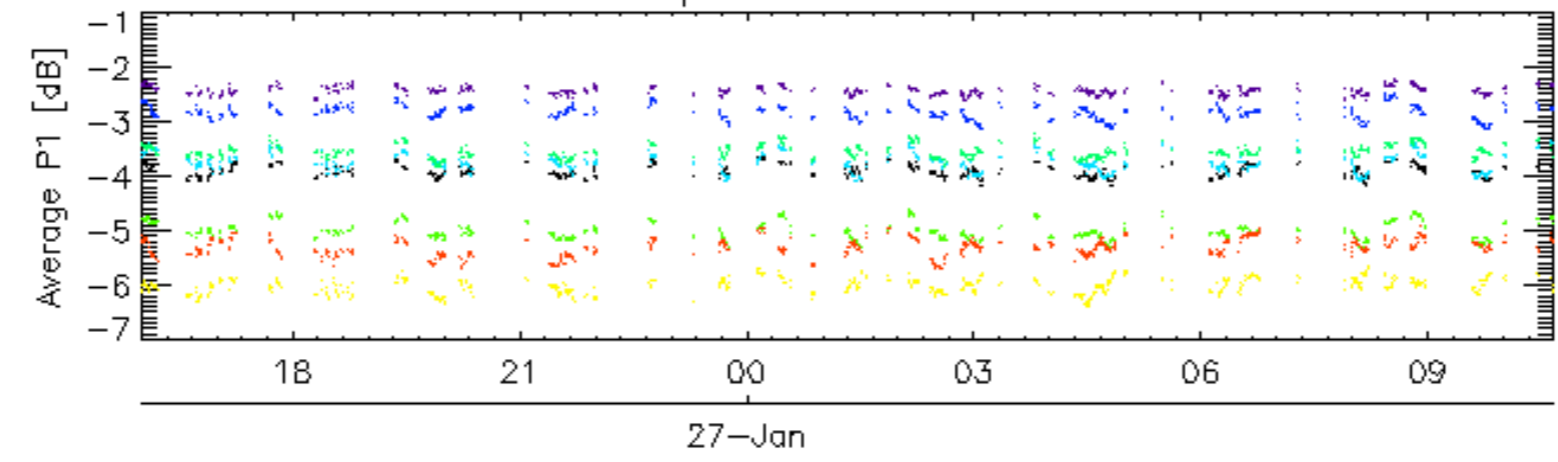
7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler	
<input type="checkbox"/>	
	Ascending
<input type="checkbox"/>	
	Descending

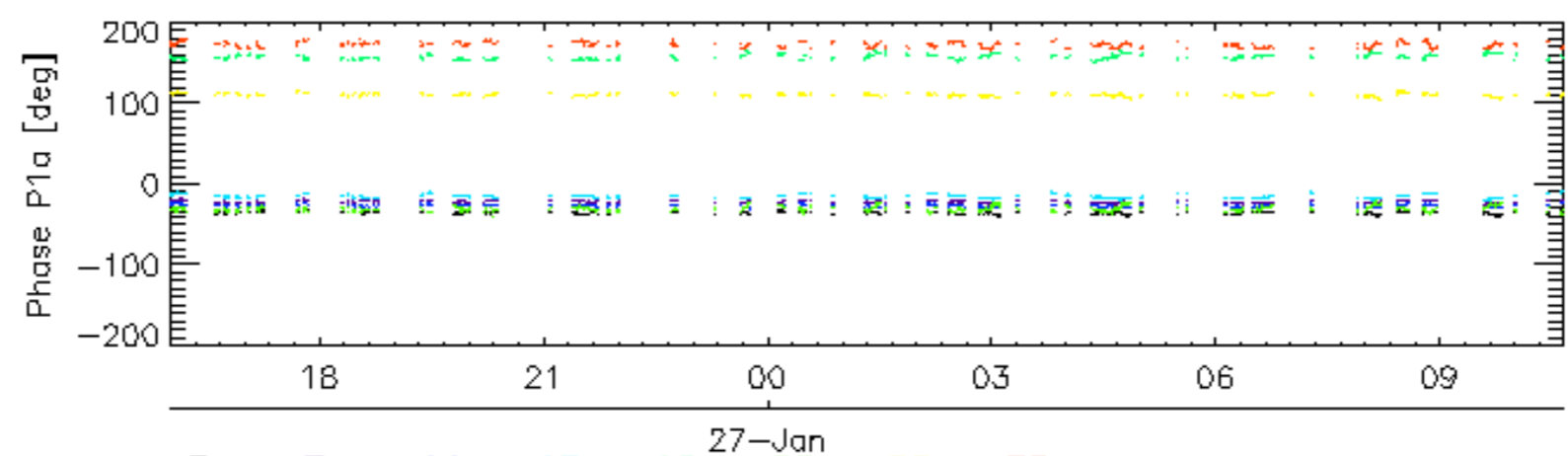
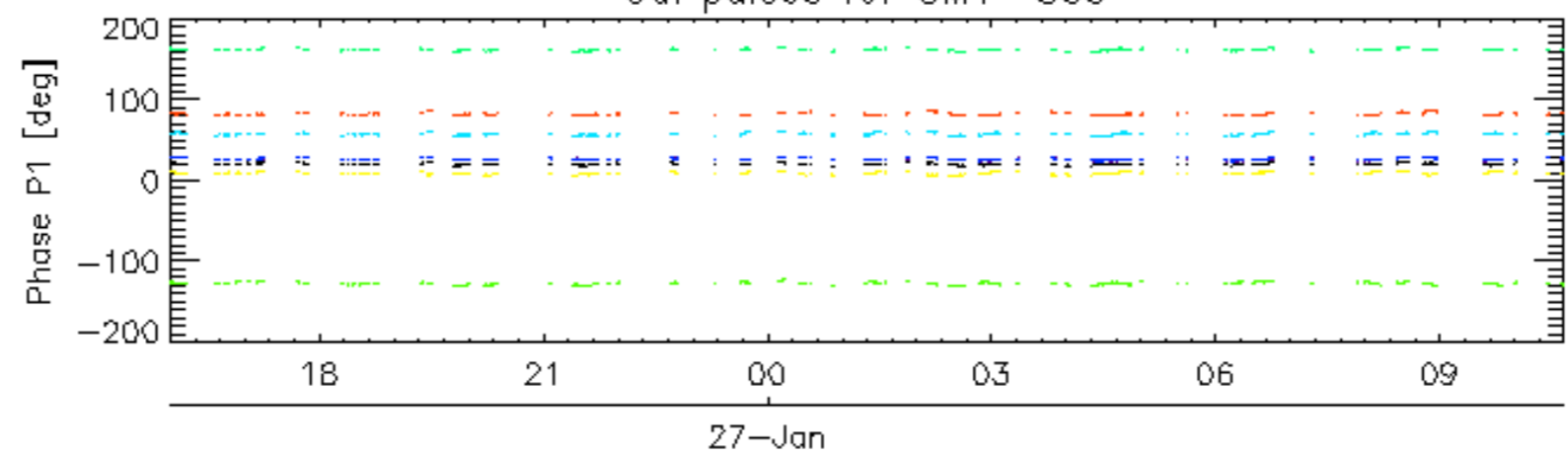
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX	
<input type="checkbox"/>	

Cal pulses for GM1 SS3

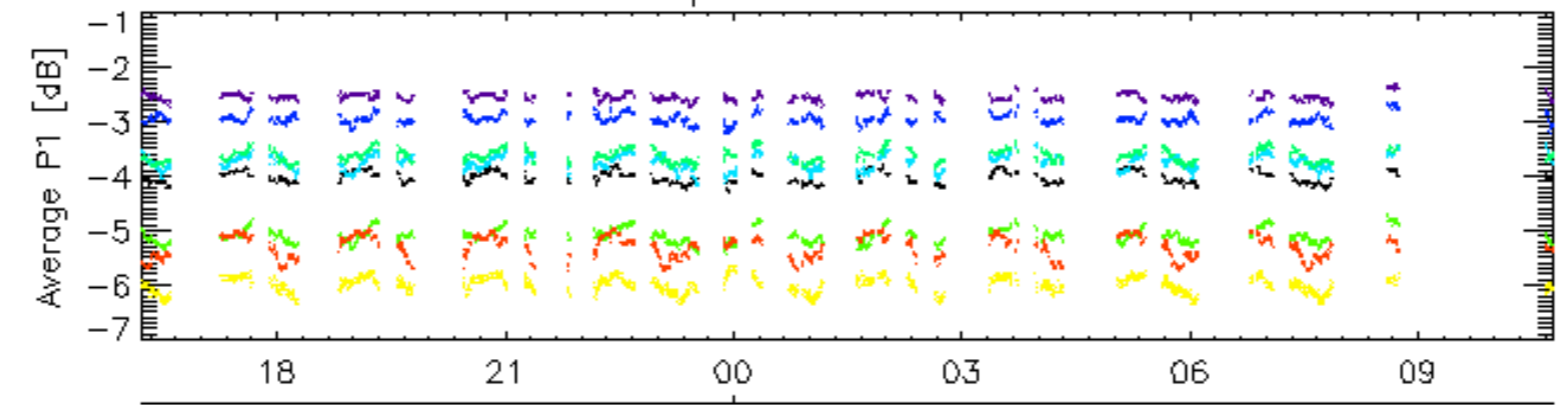


Cal pulses for GM1 SS3

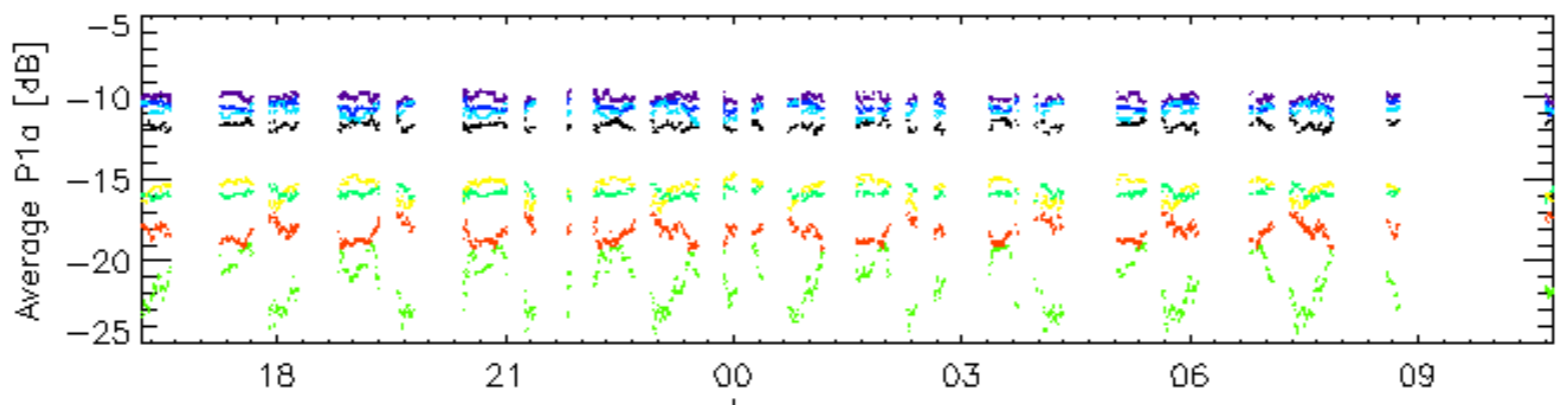


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS4

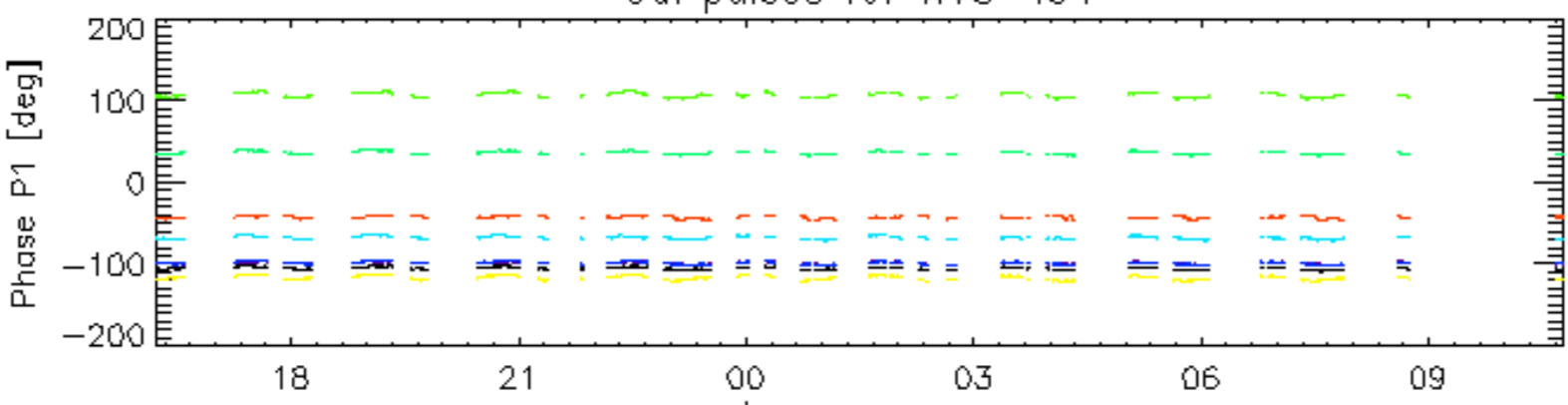


27-Jan

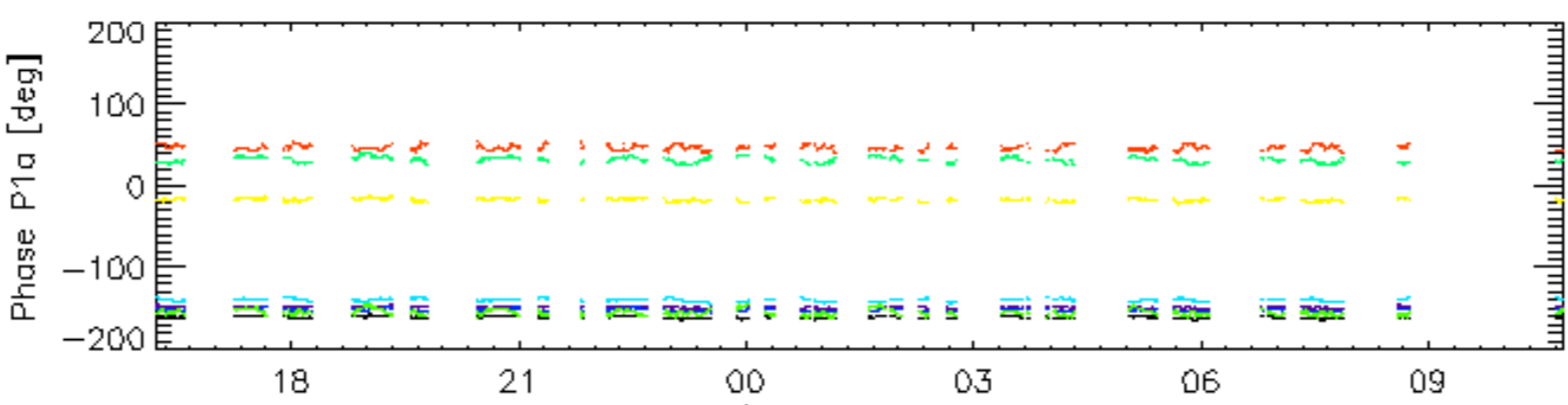


27-Jan

Cal pulses for WVS IS4



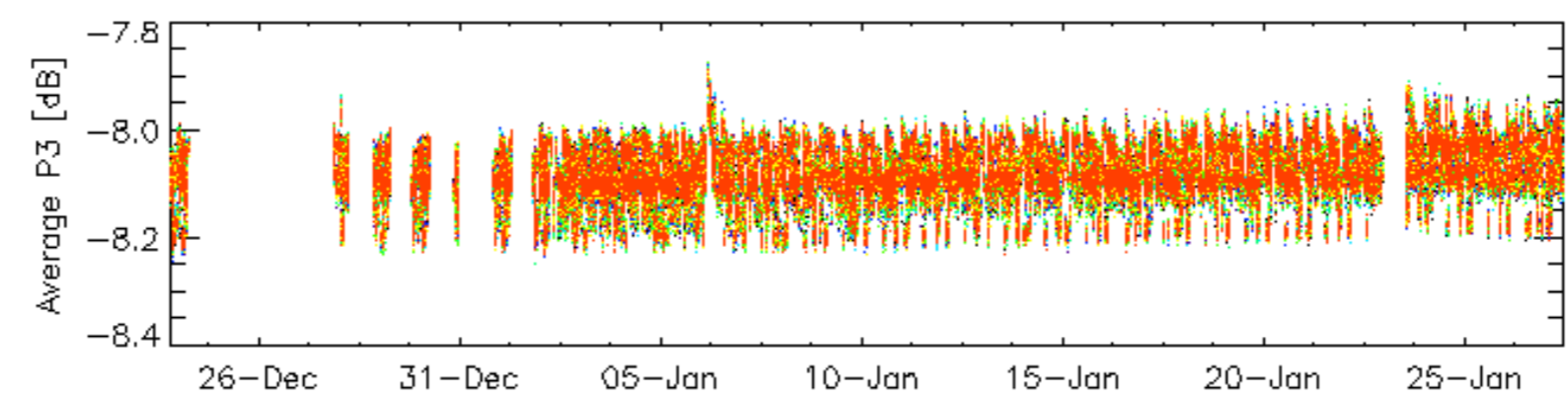
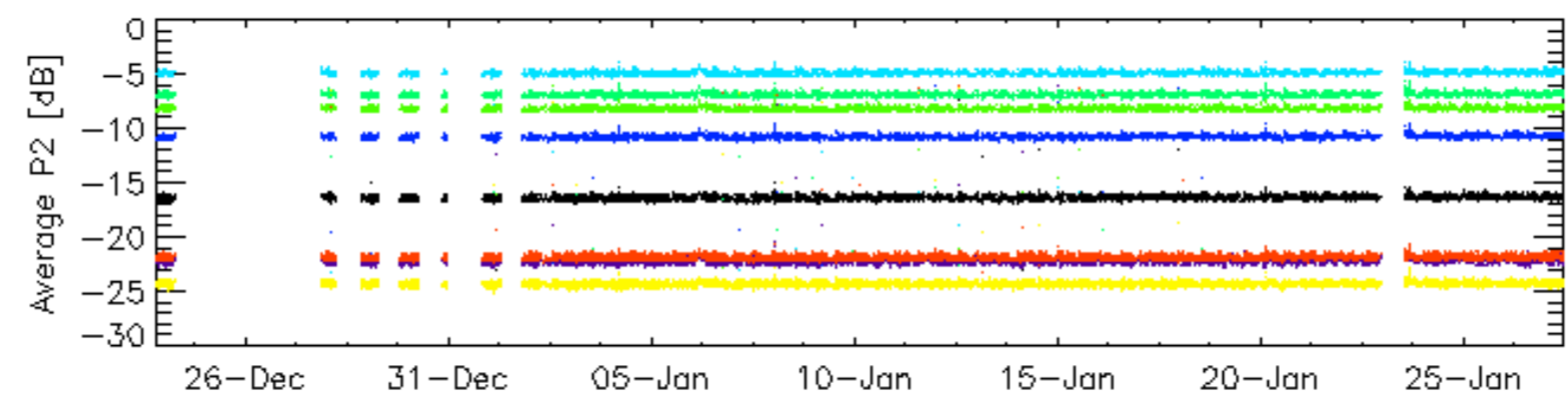
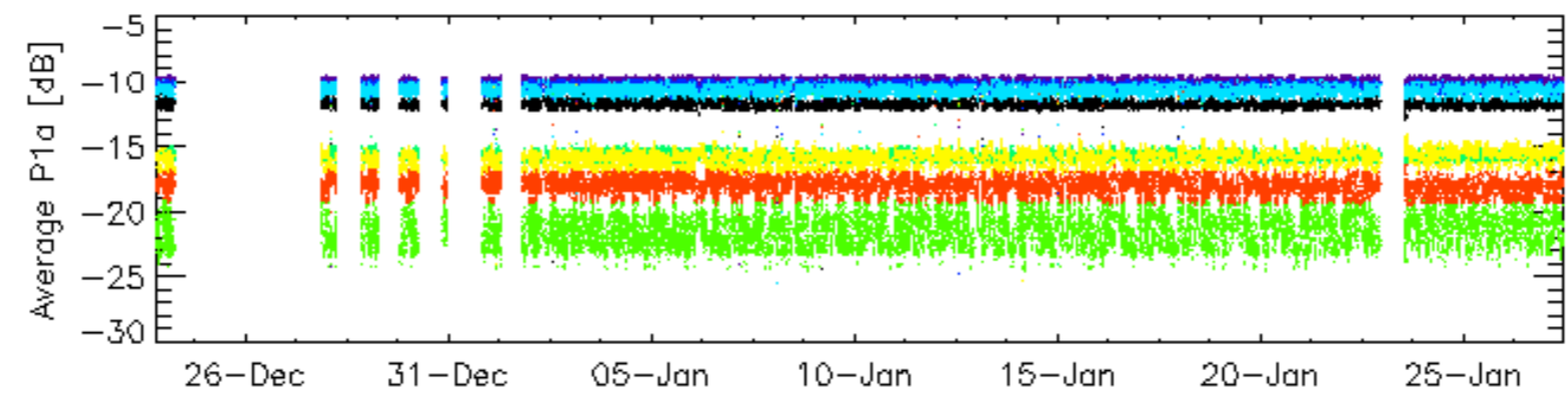
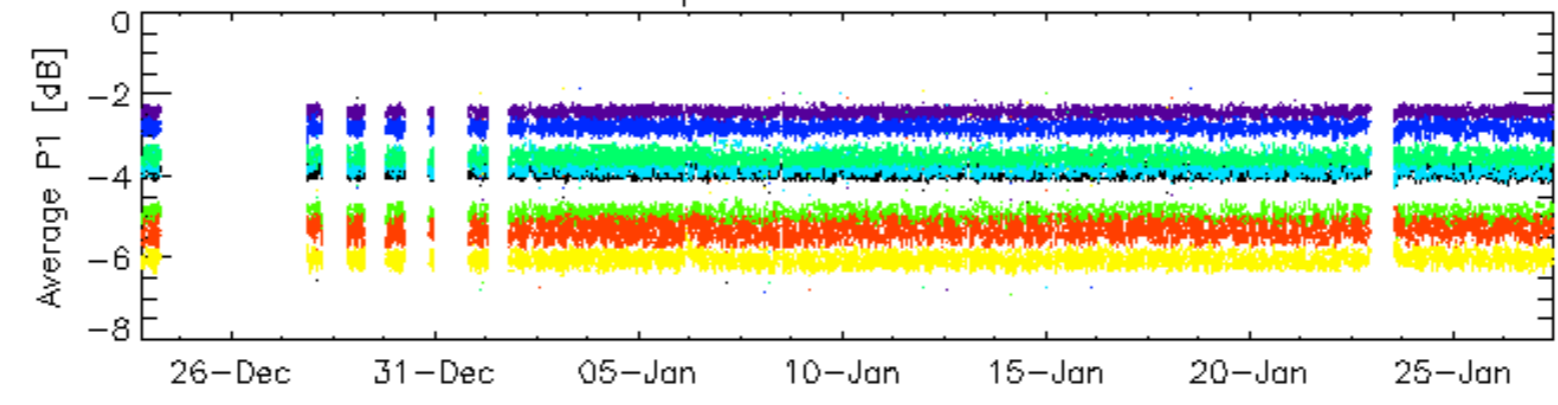
27-Jan



27-Jan

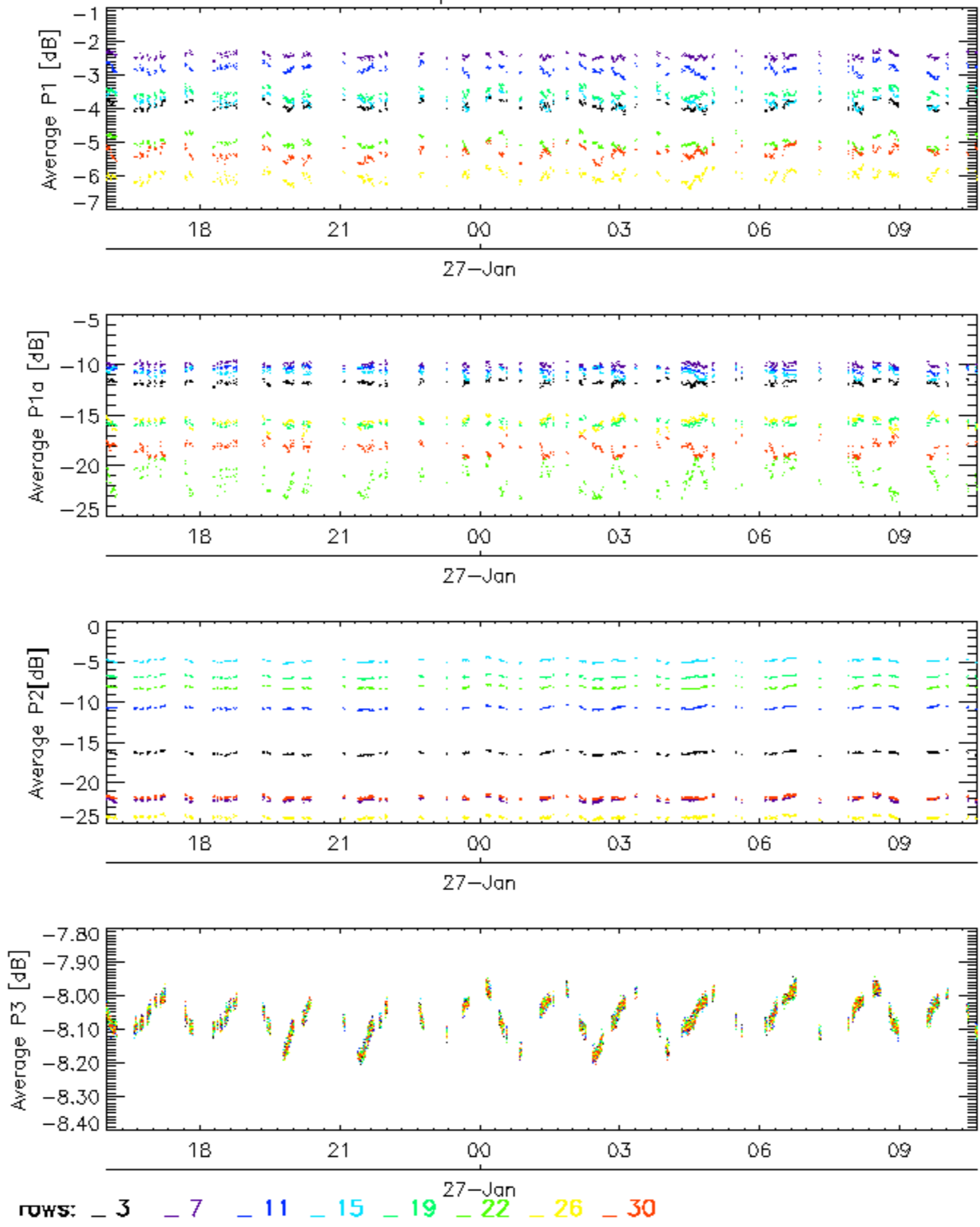
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

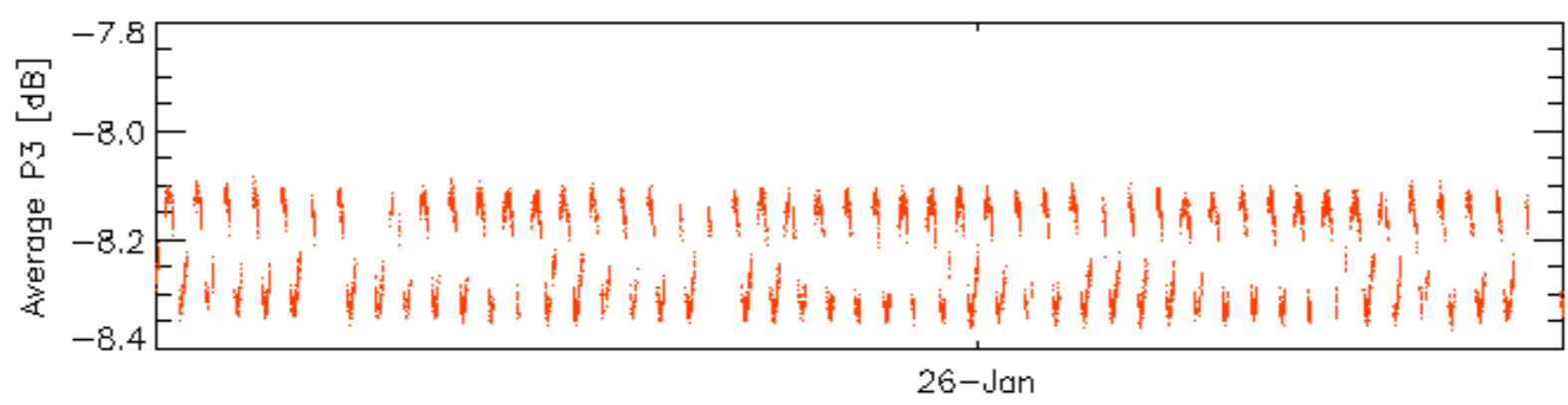
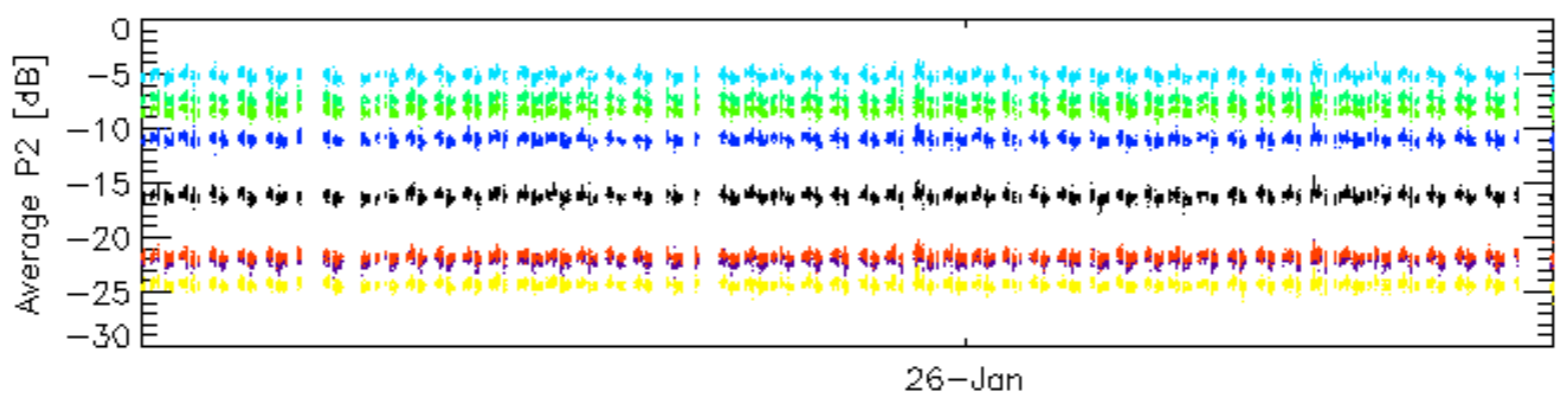
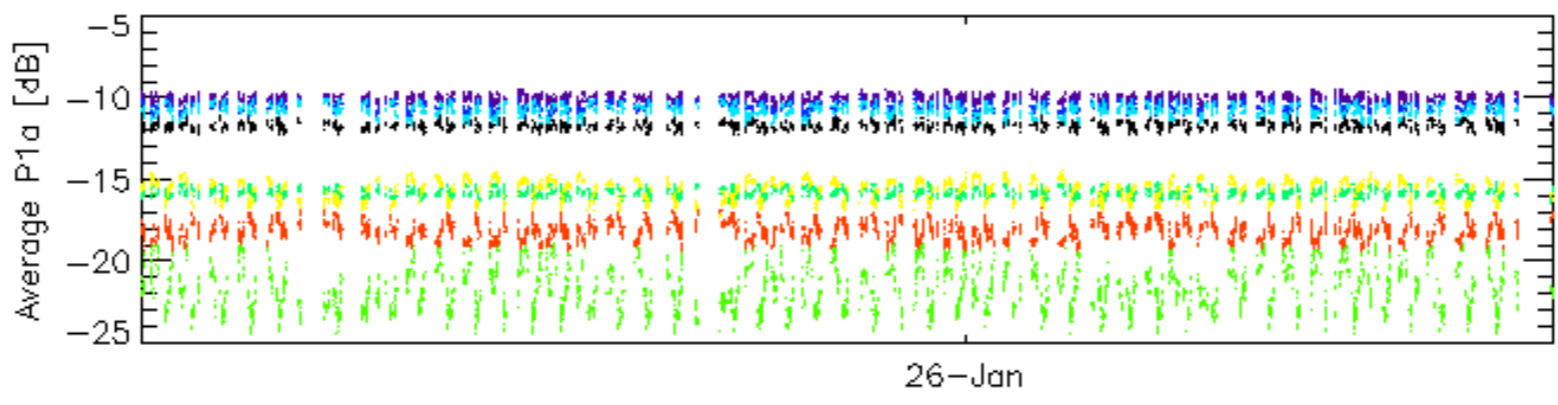
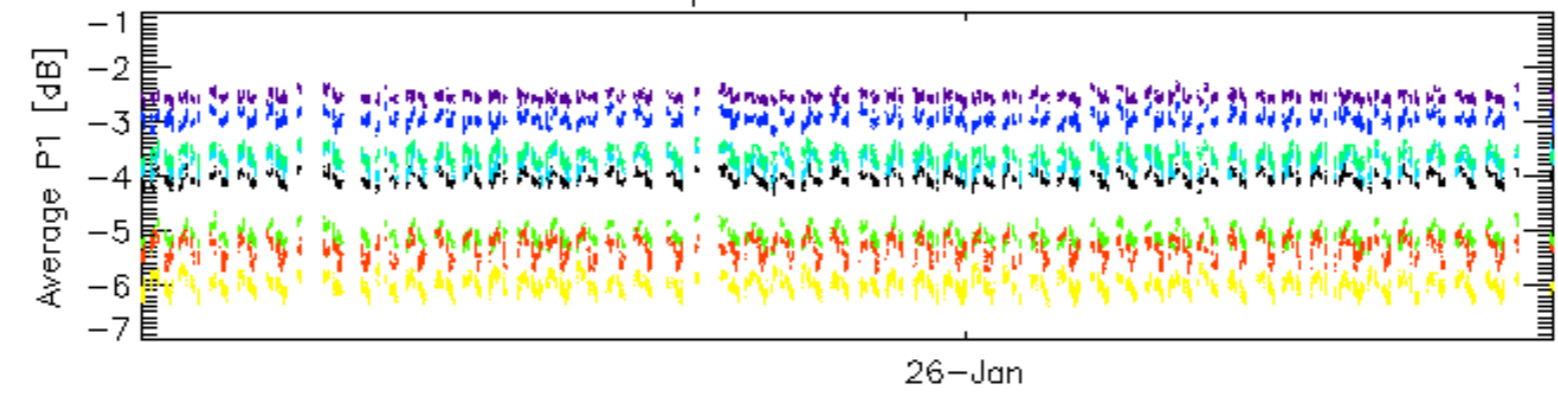


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

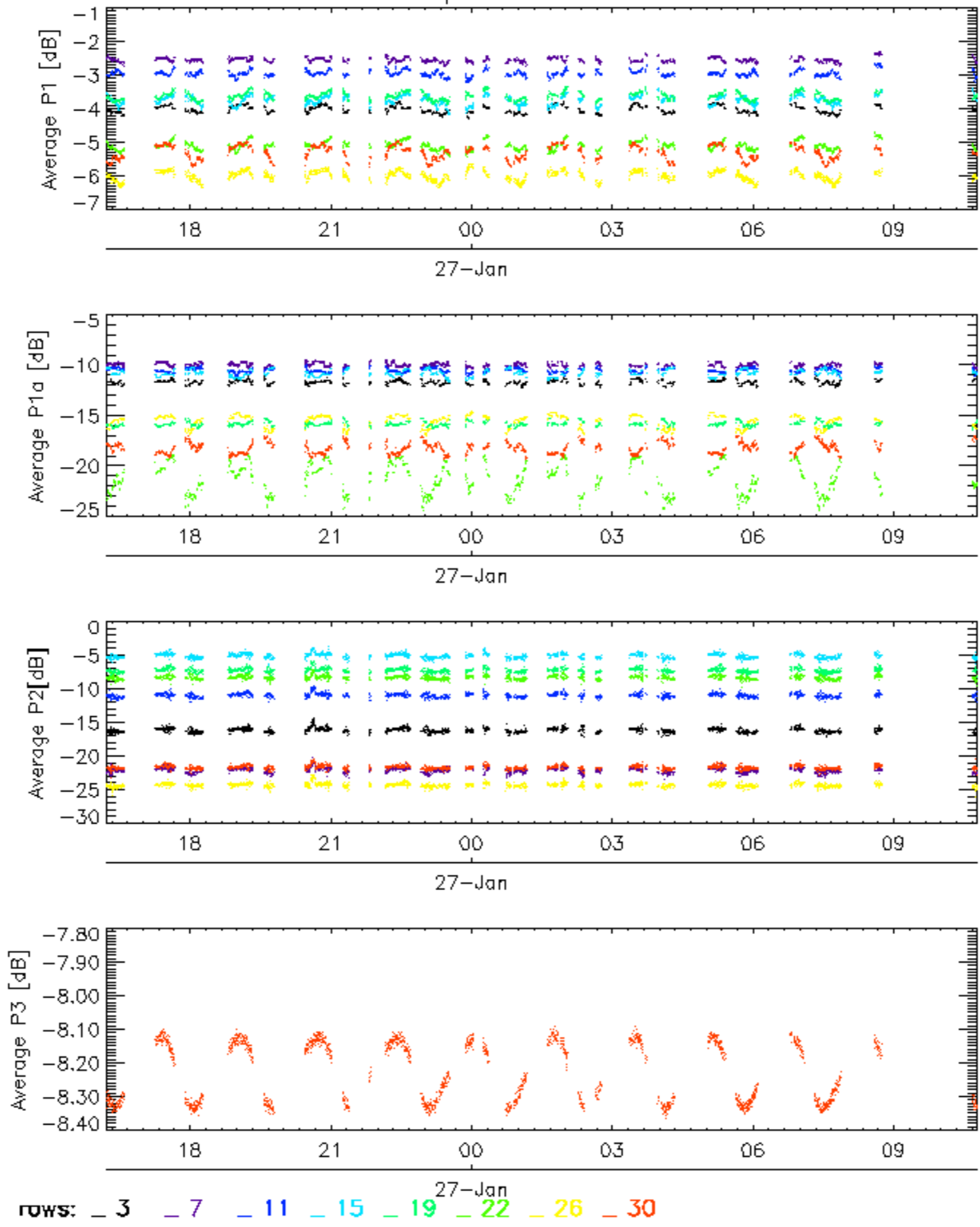


Cal pulses for WVS IS4

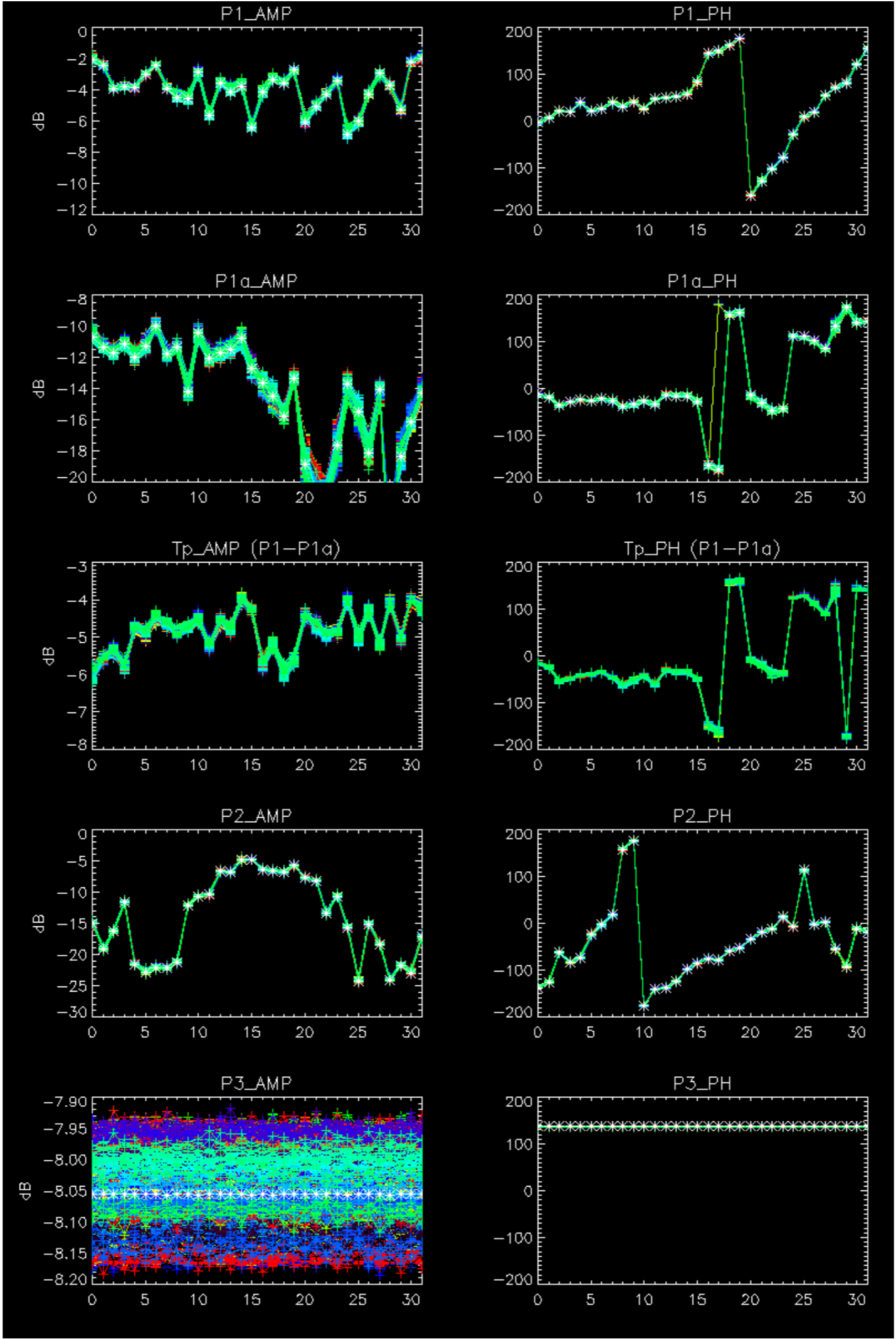


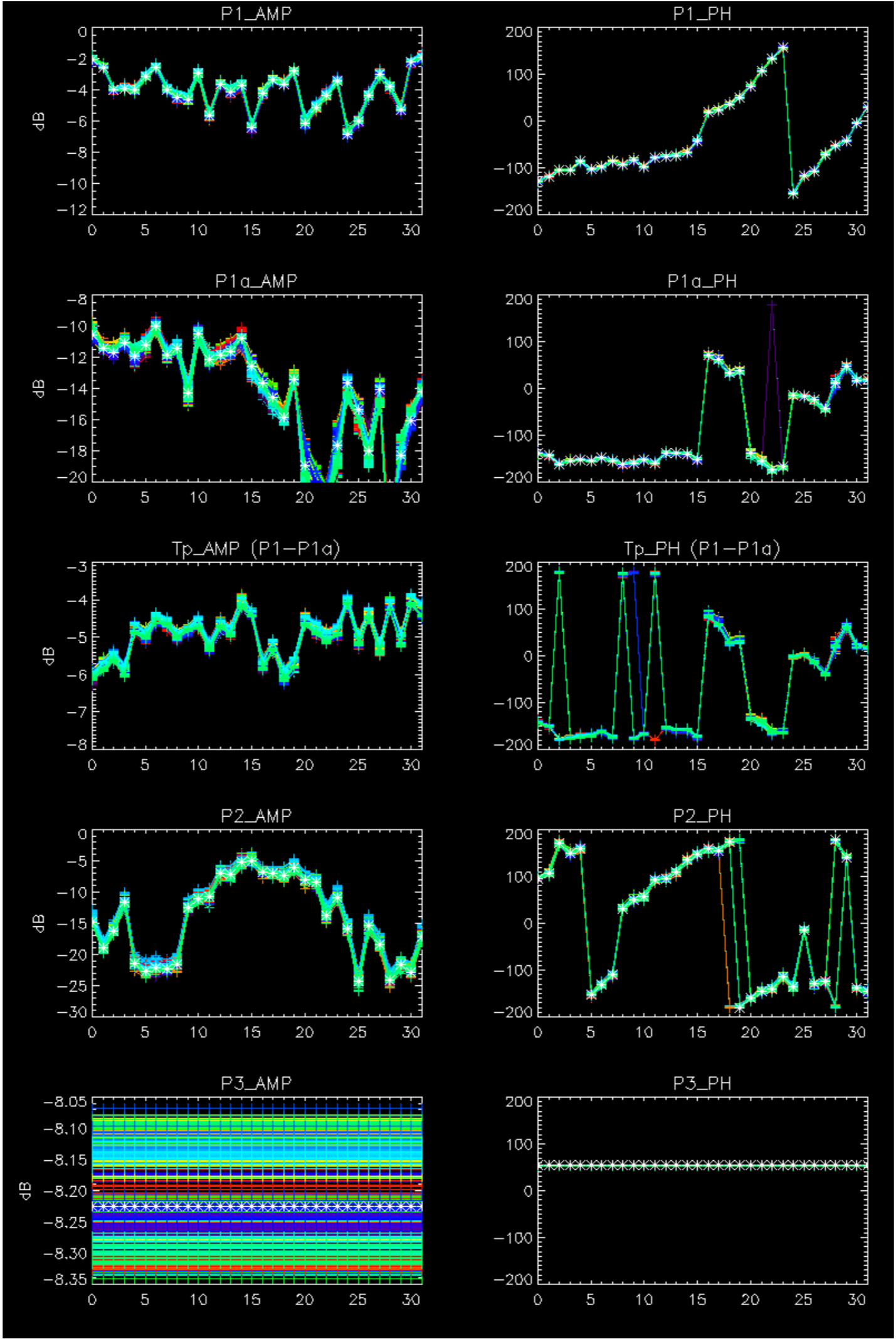
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS4



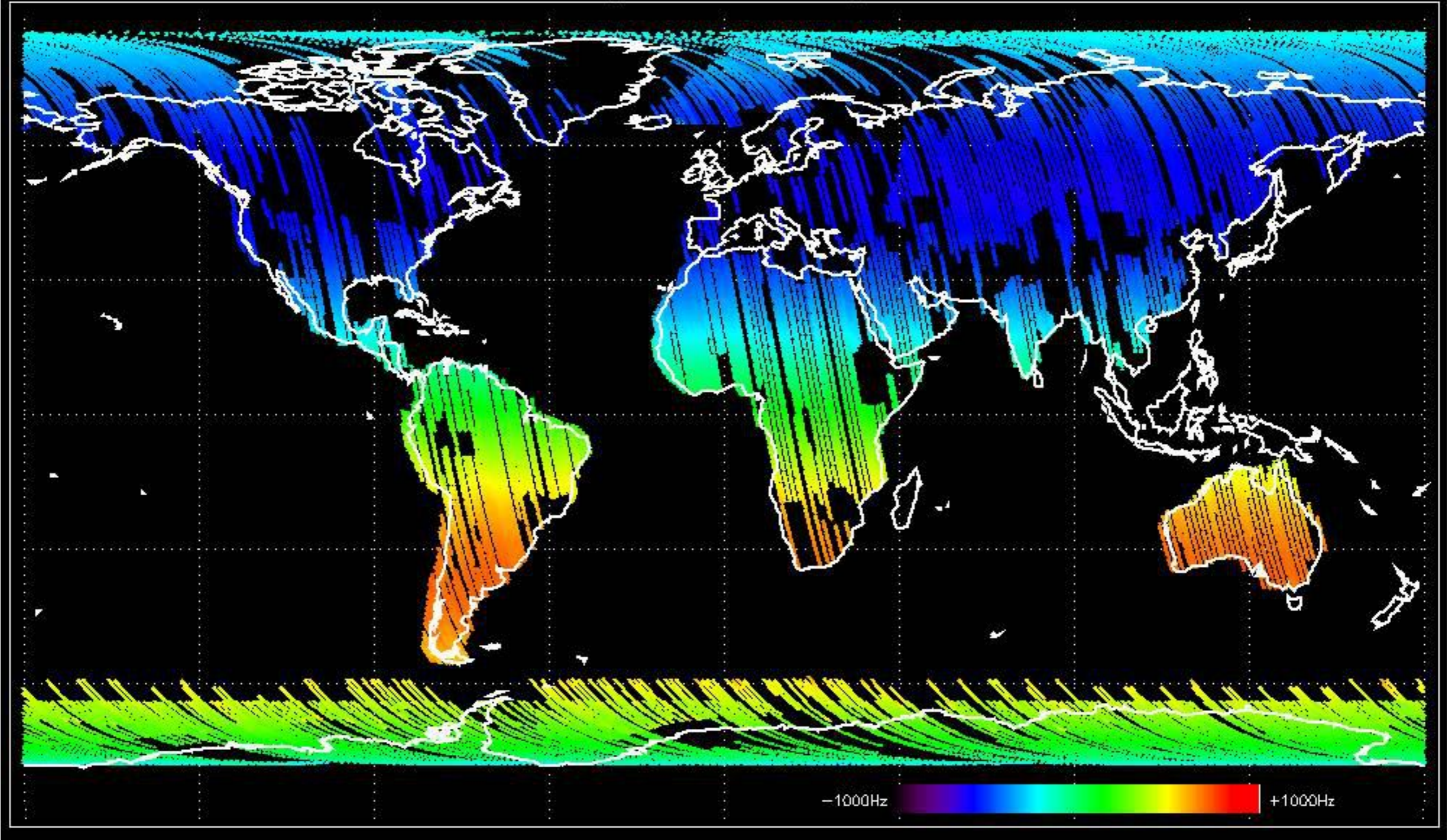
No anomalies observed.



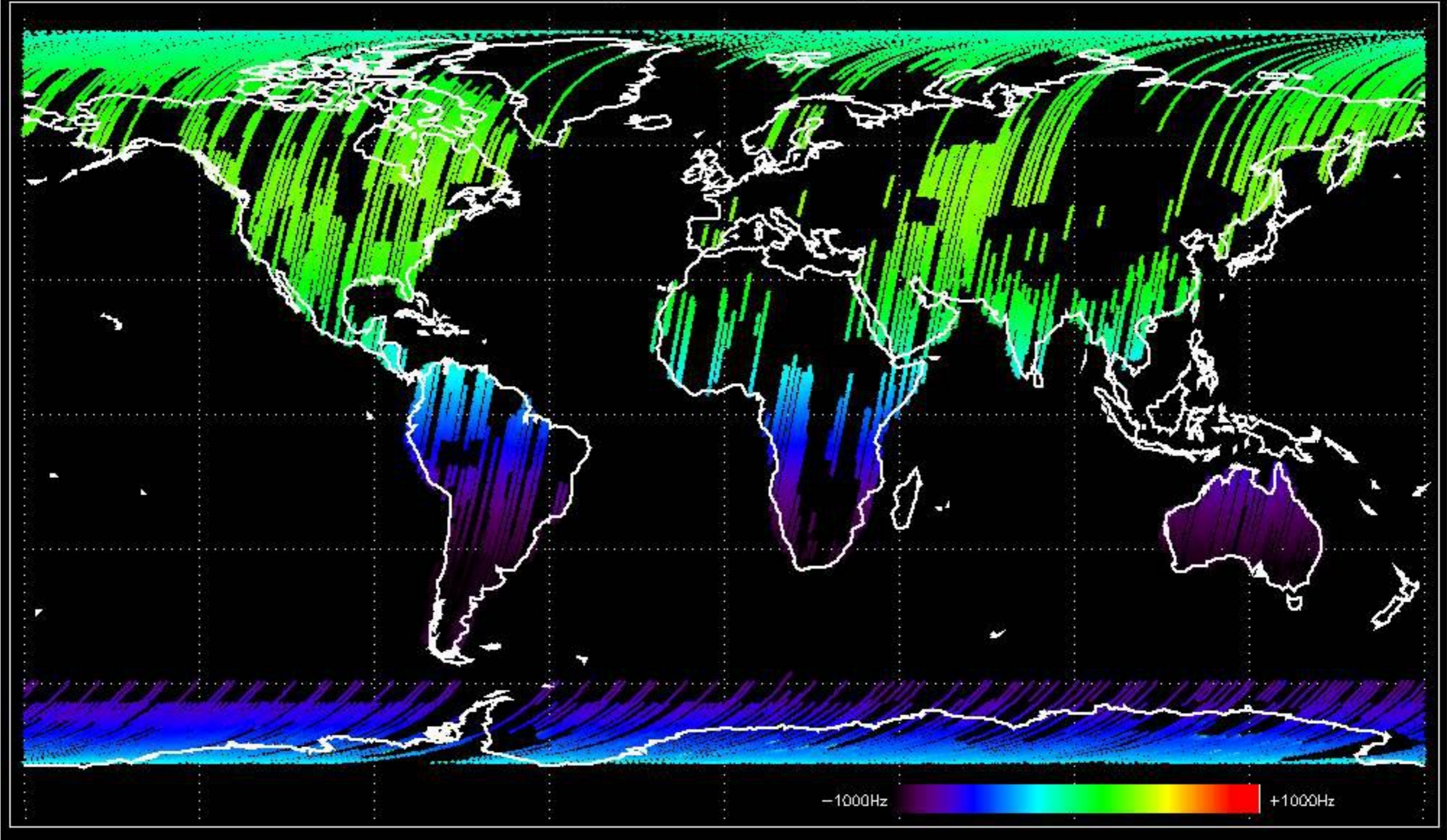


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

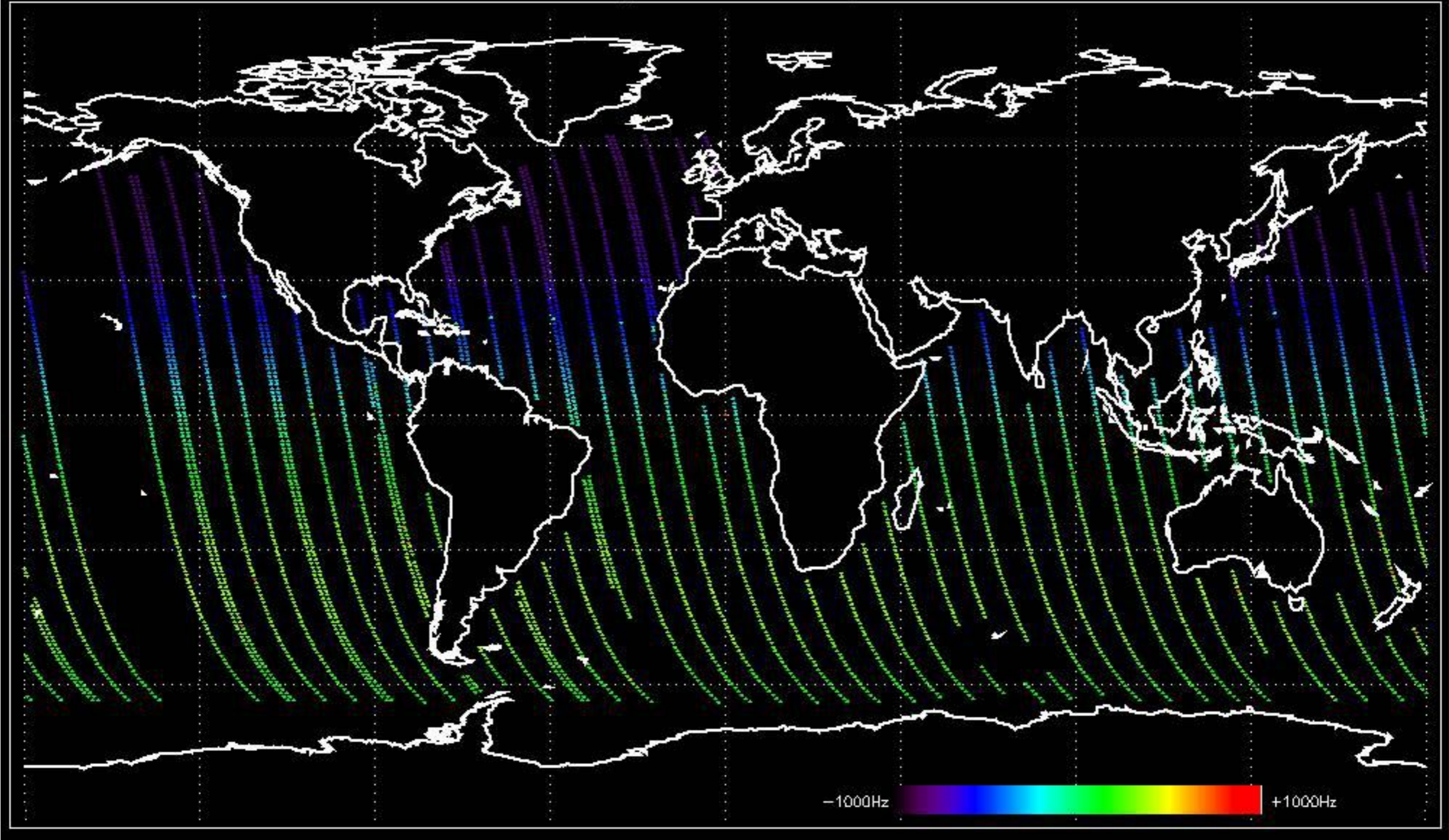
Doppler 'GM1' 'SS1' ascending



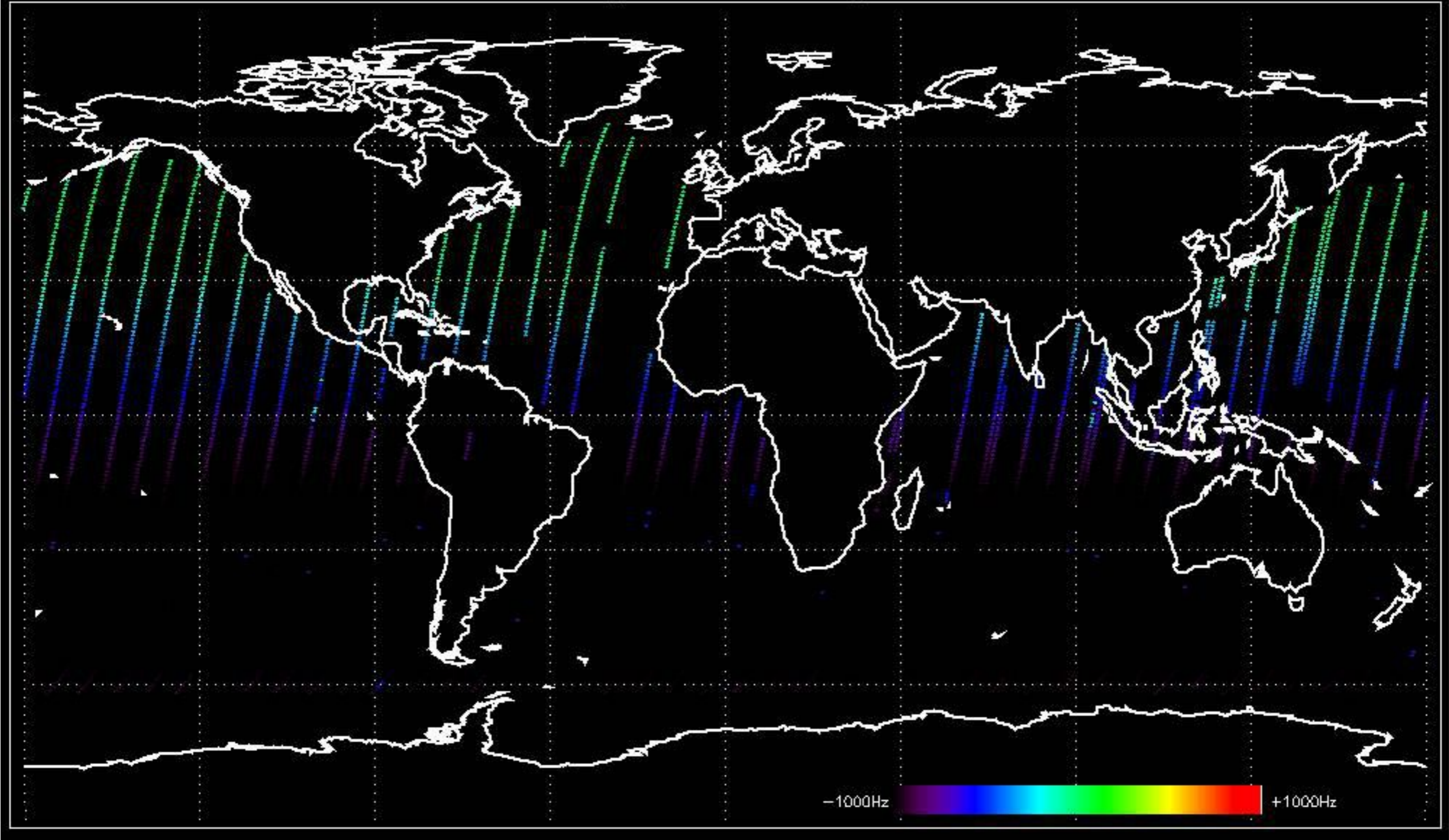
Doppler 'GM1' 'SS1' descending



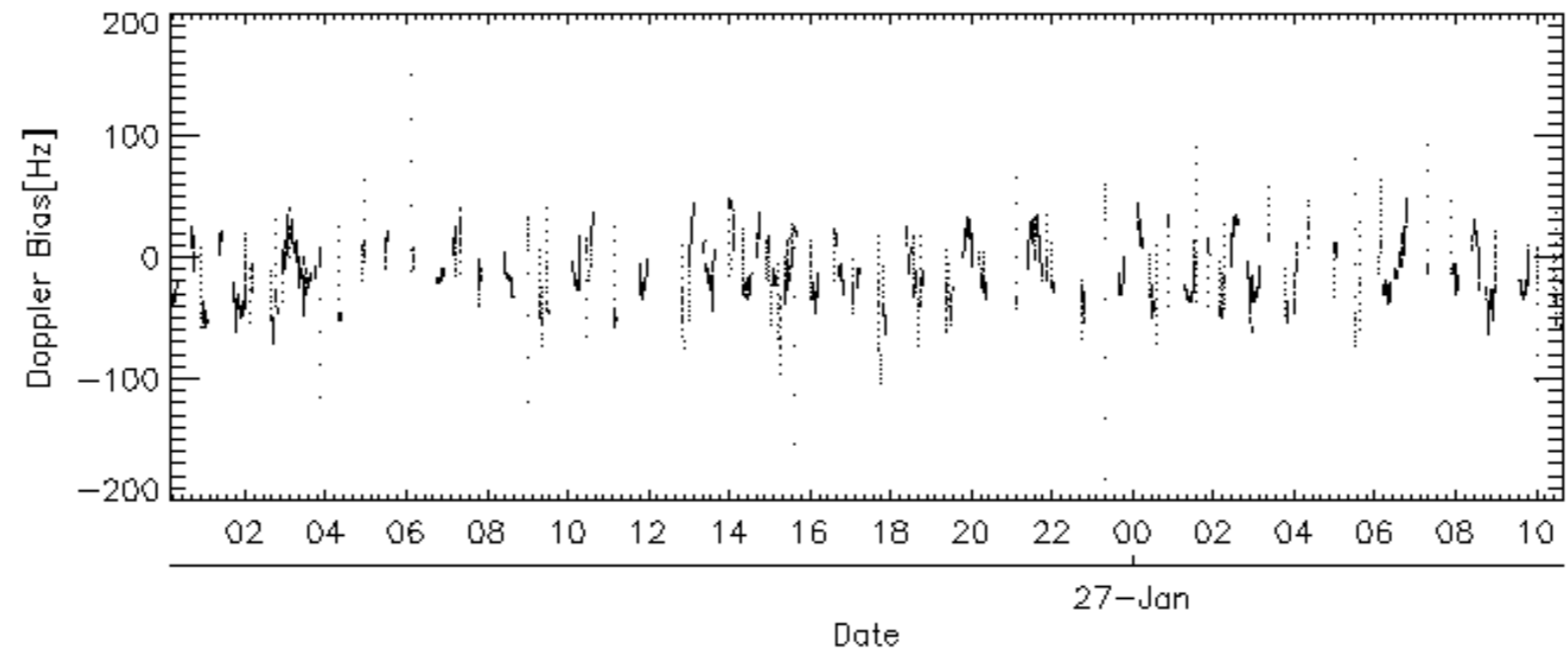
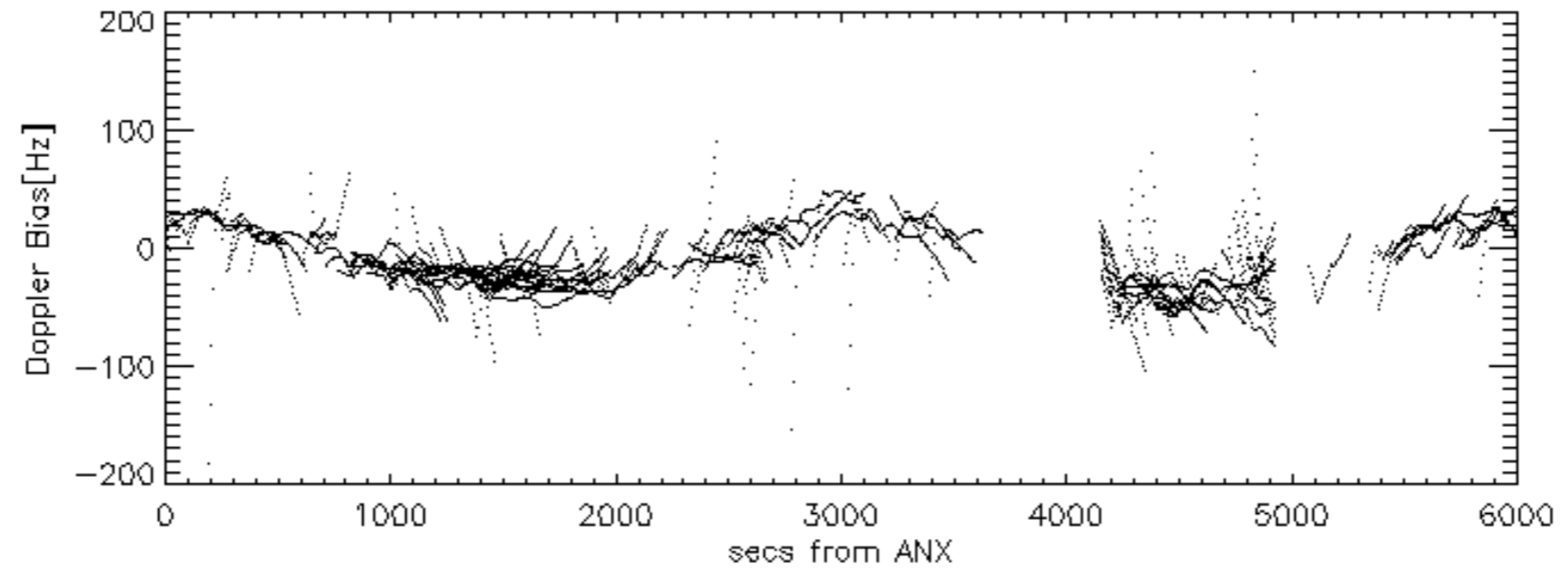
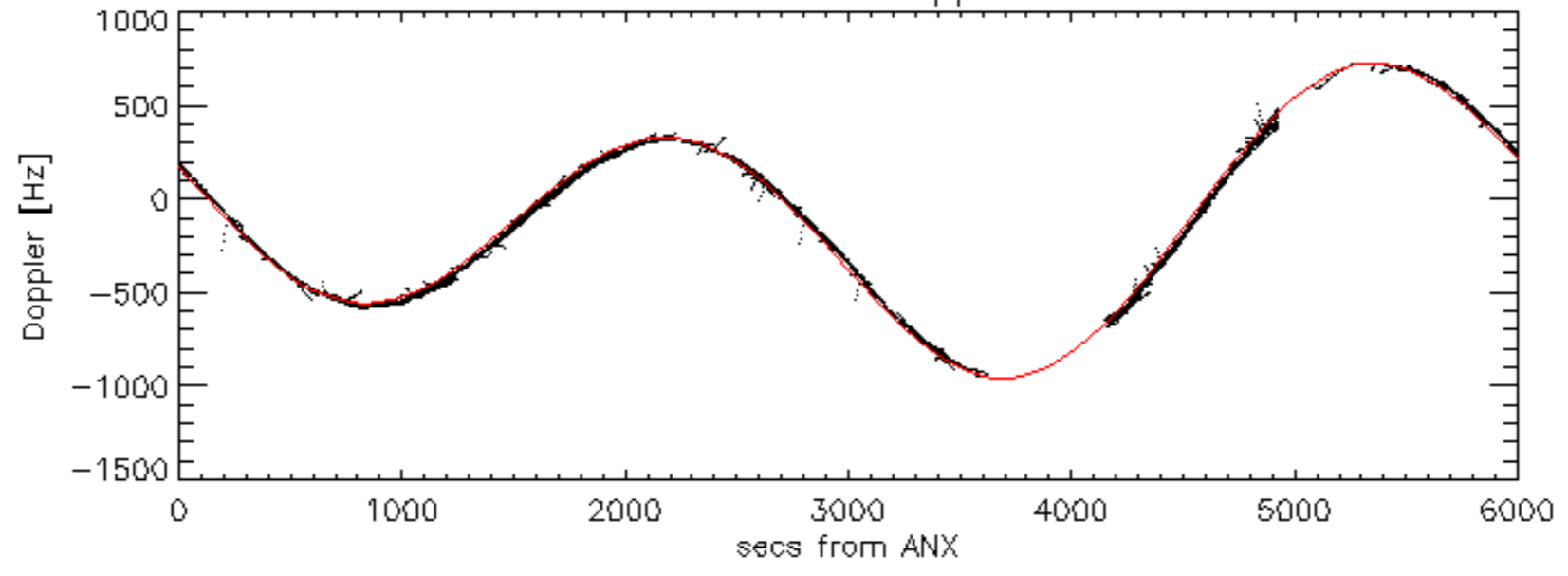
Doppler 'WVS' 'IS4' ascending

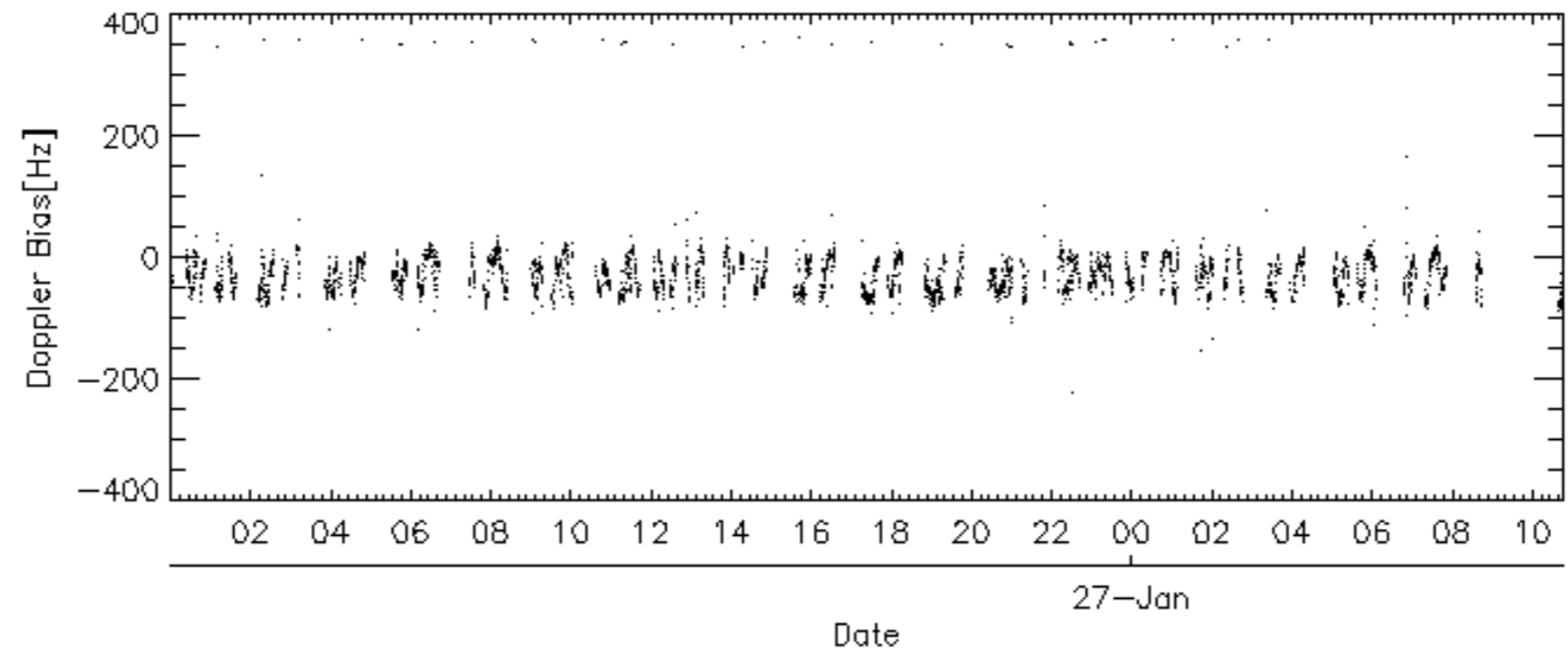
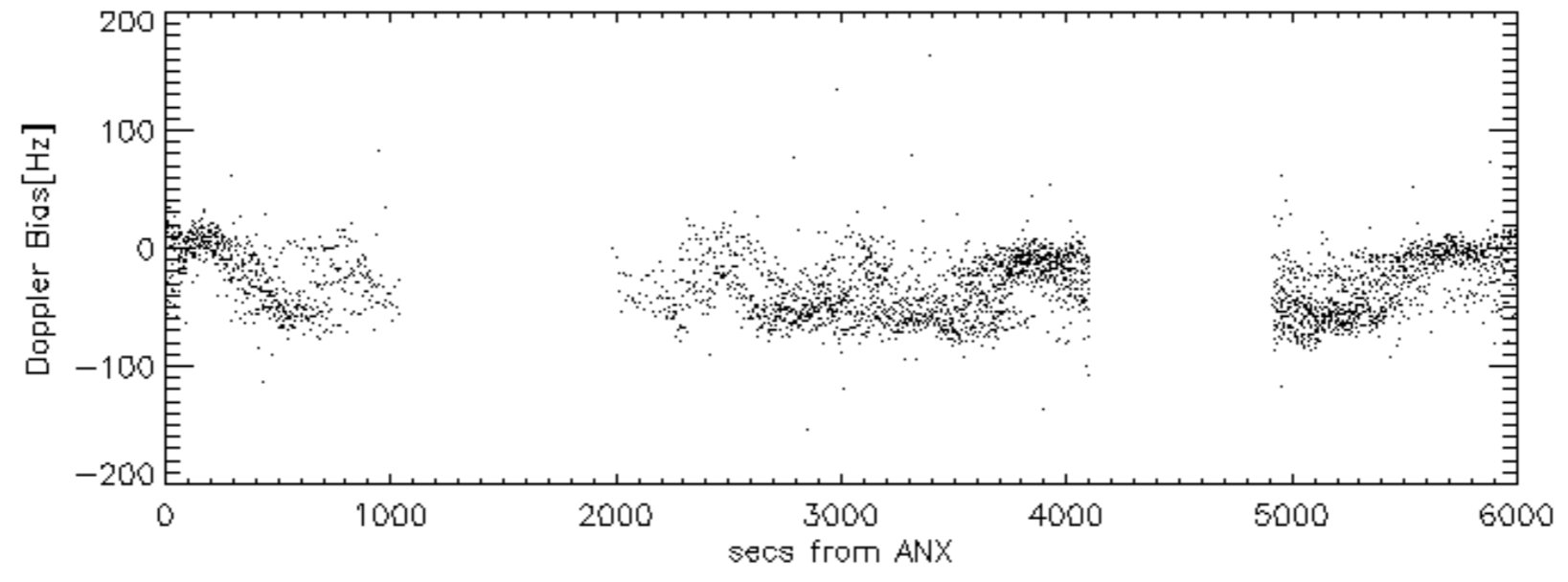
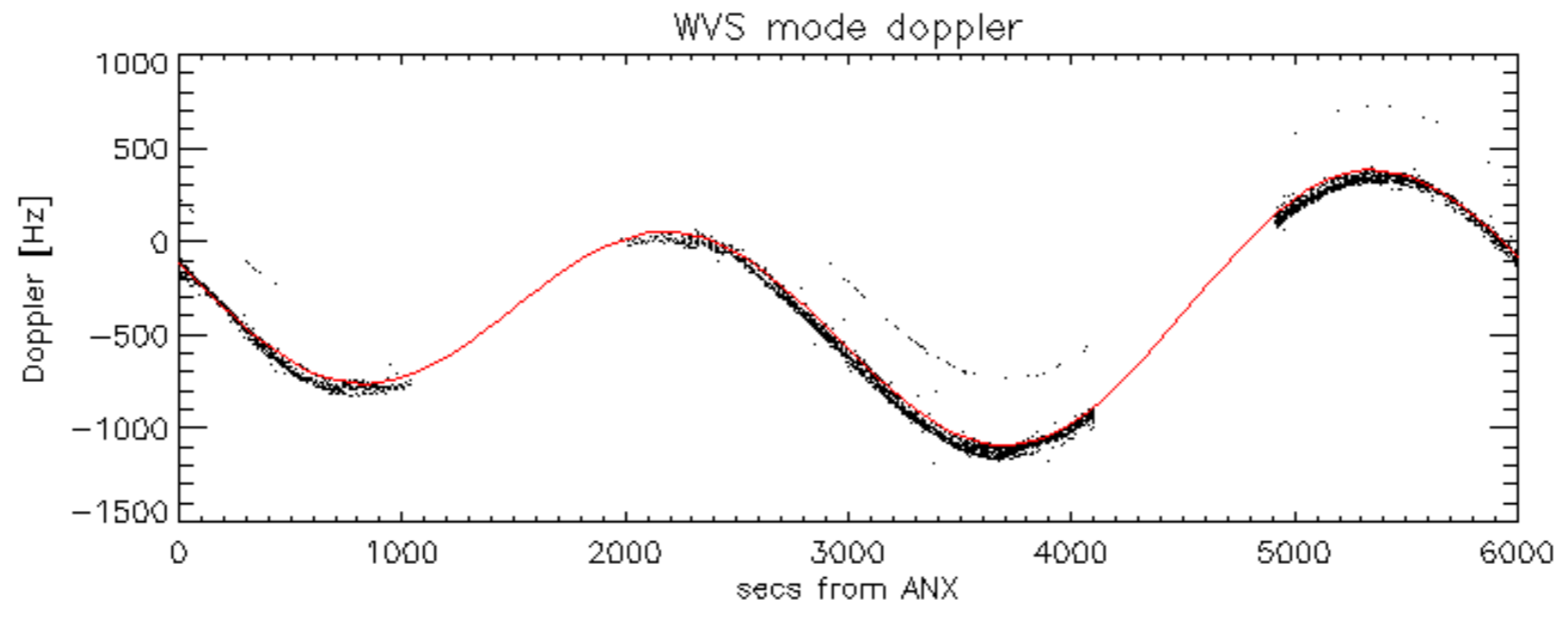


Doppler 'WVS' 'IS4' descending

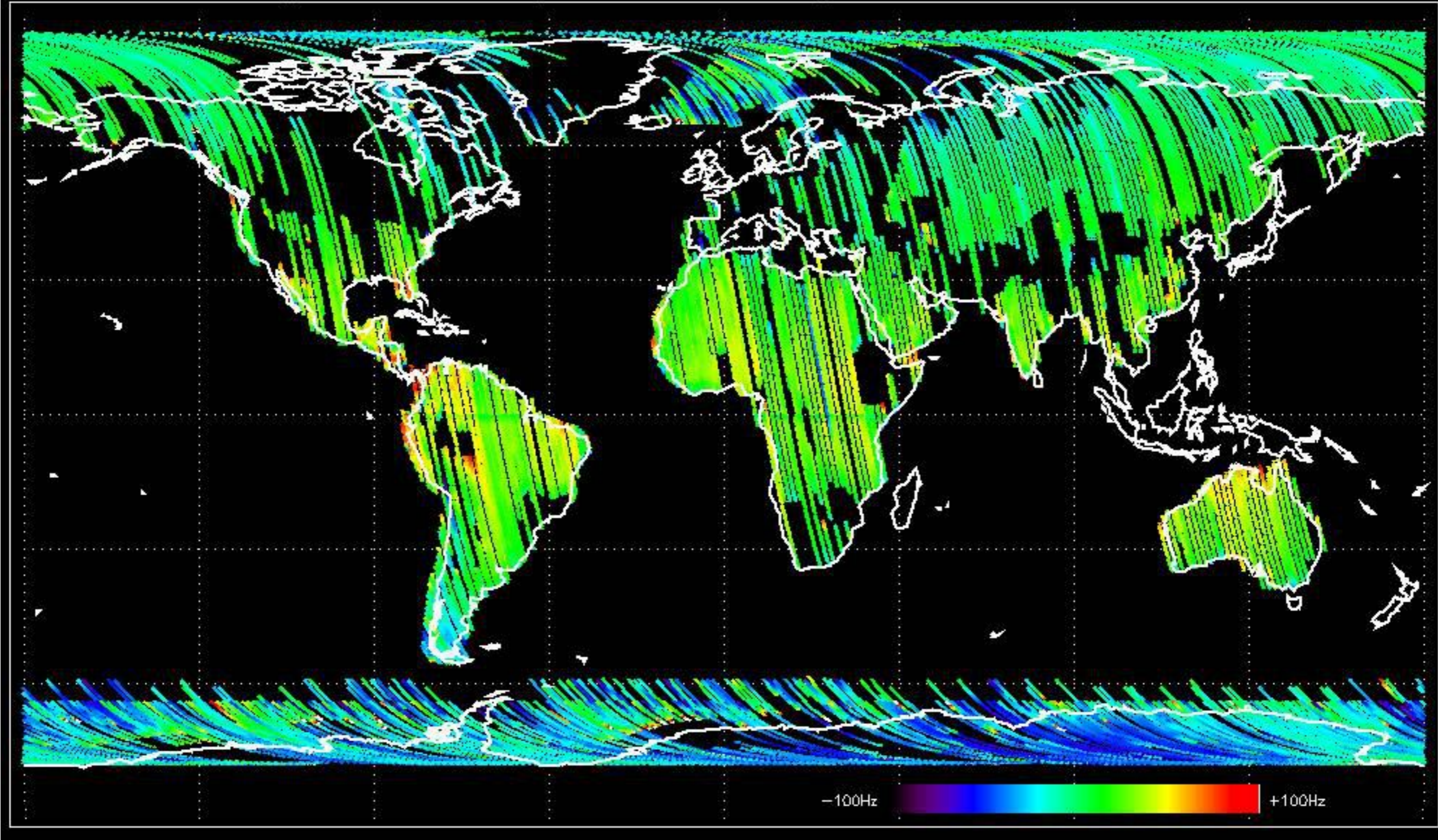


GM1 mode doppler

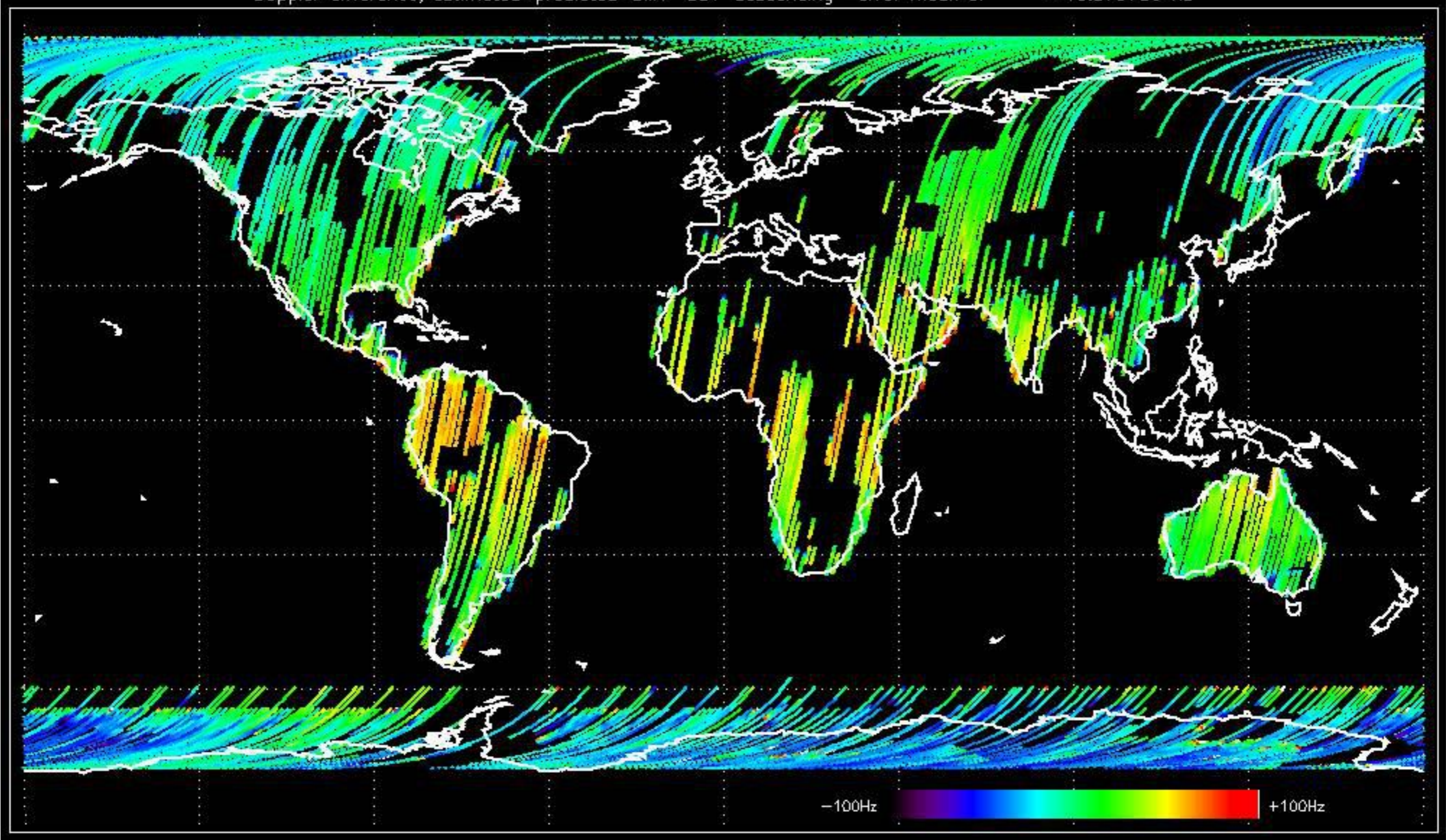




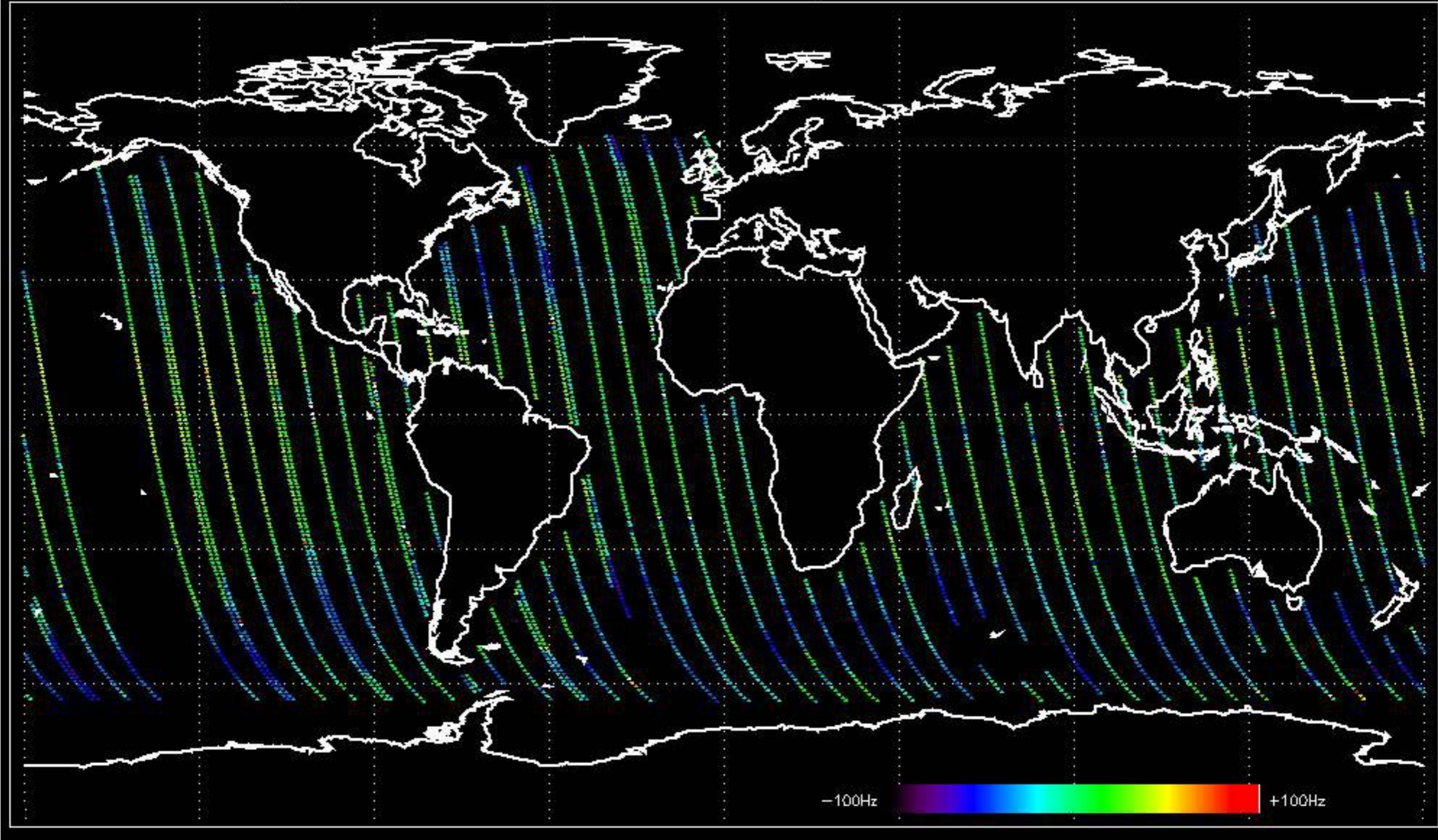
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.875314 Hz



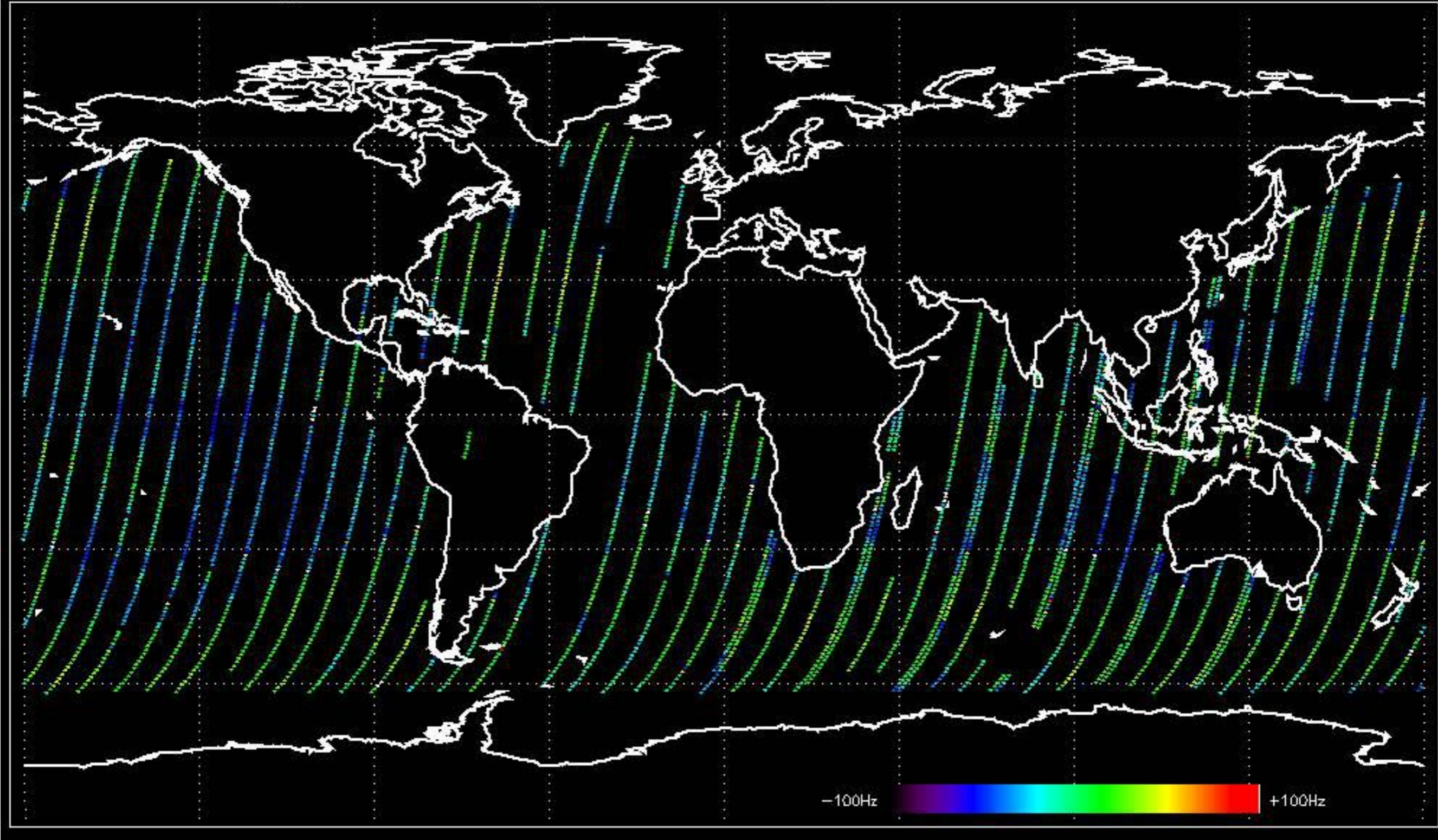
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.979736 Hz



Doppler difference, estimated-predicted 'WVS' 'IS4' ascending -error mean of -27.151949 Hz

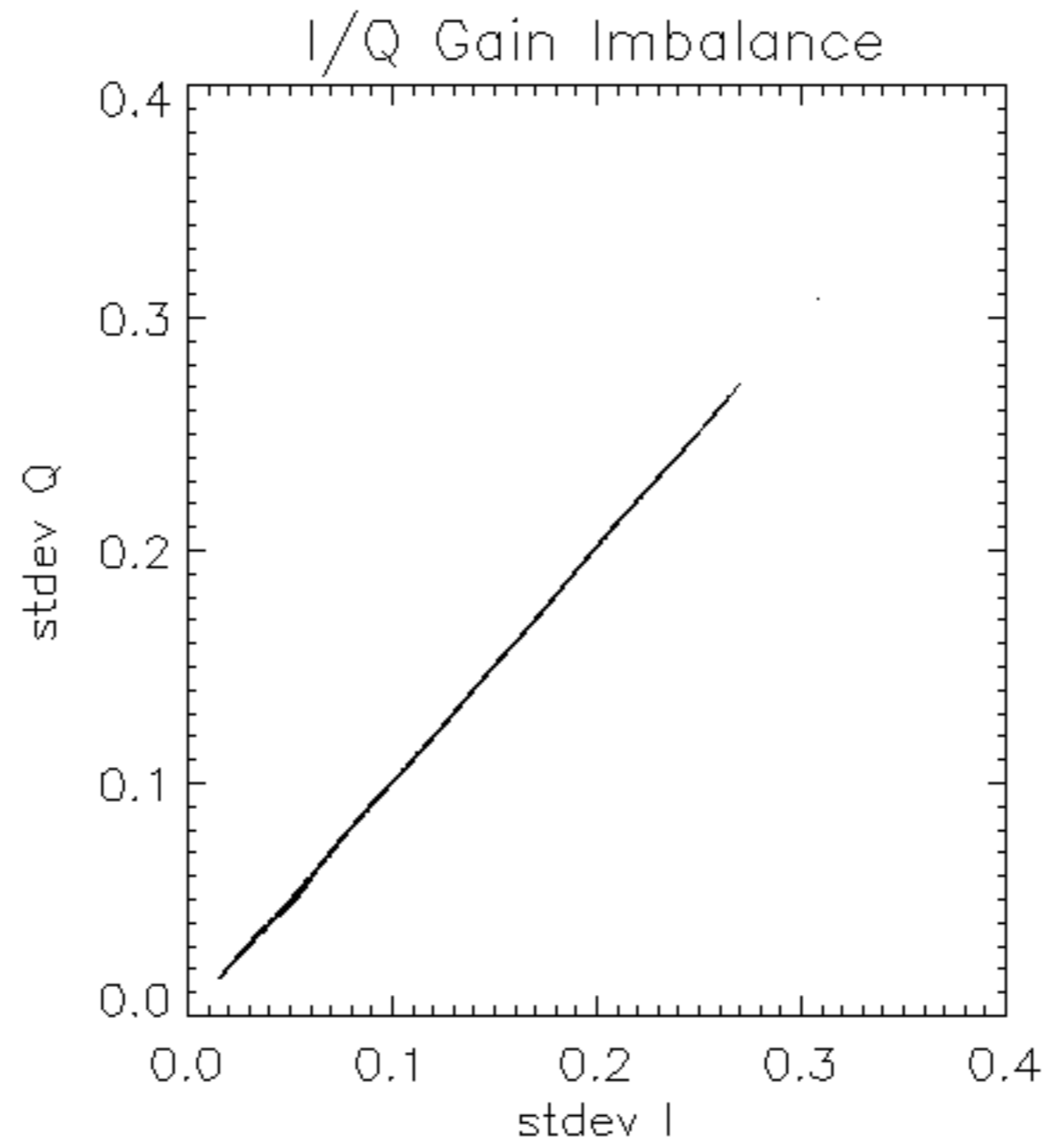


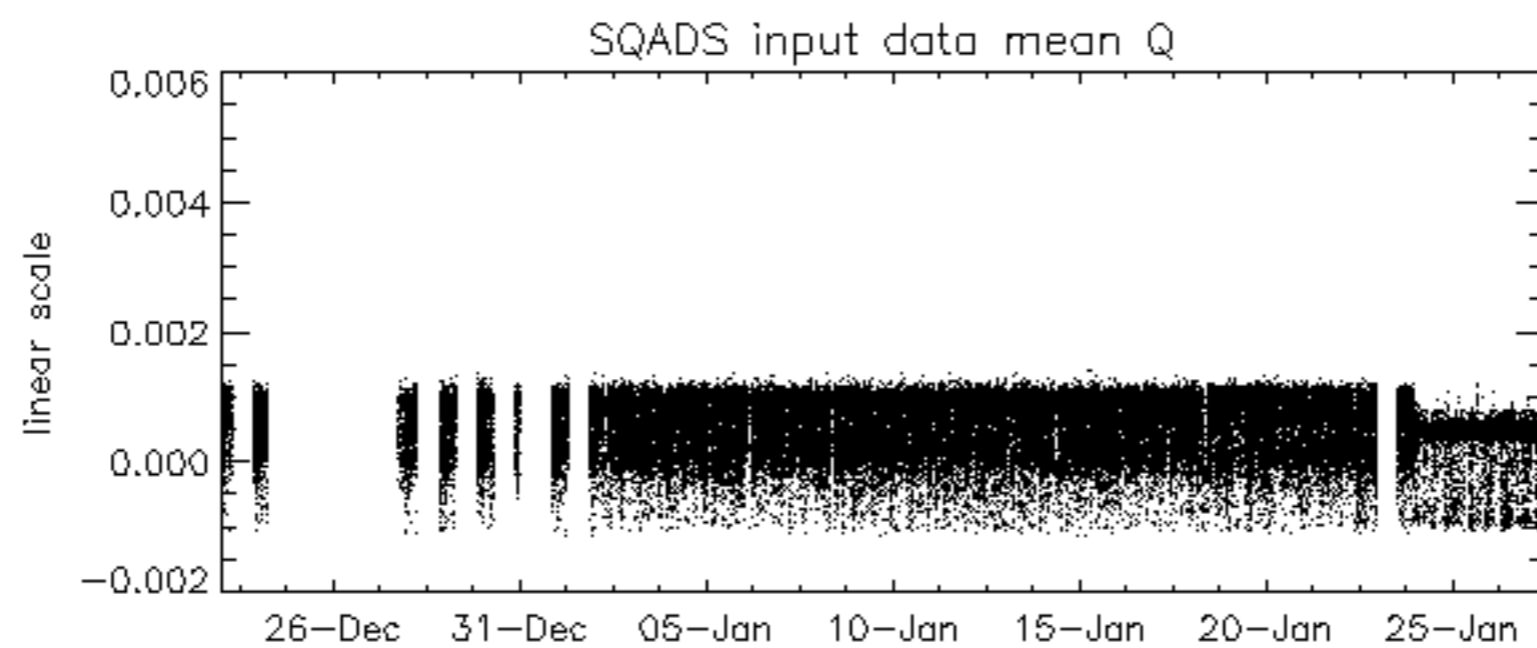
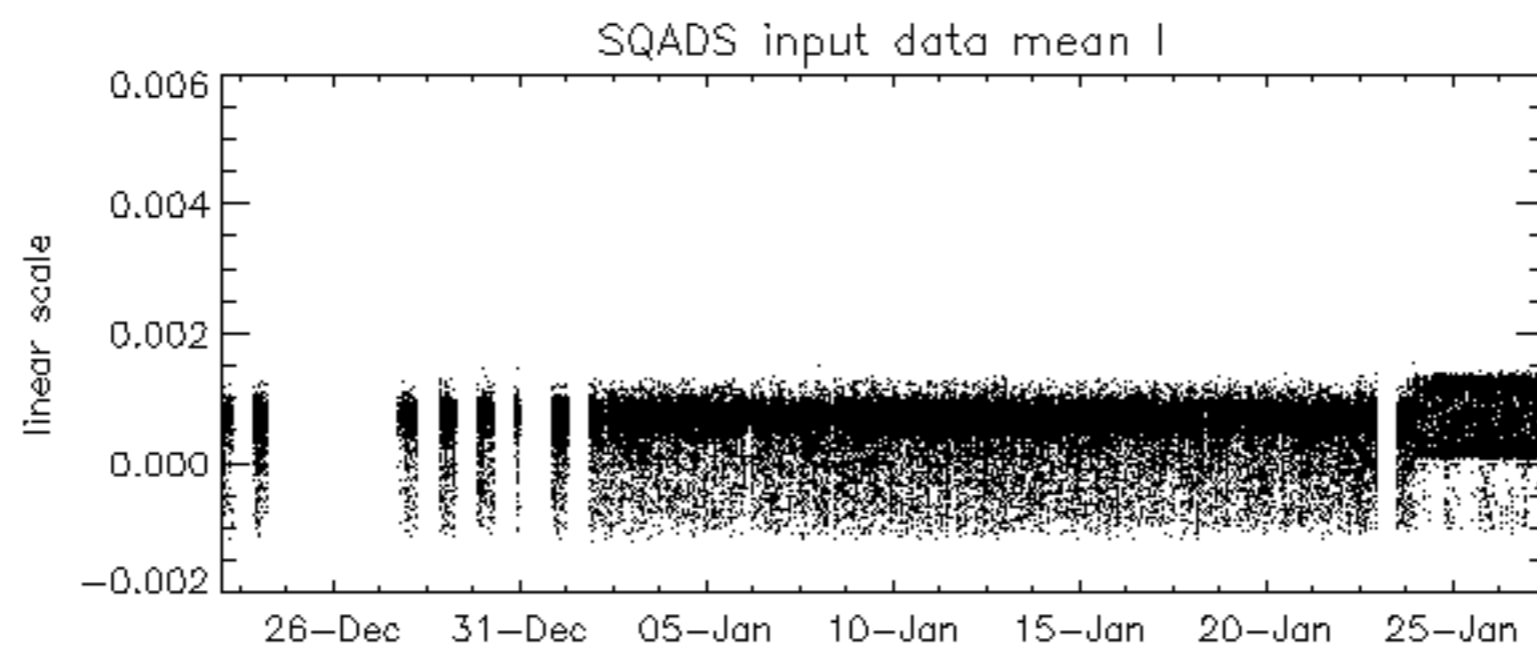
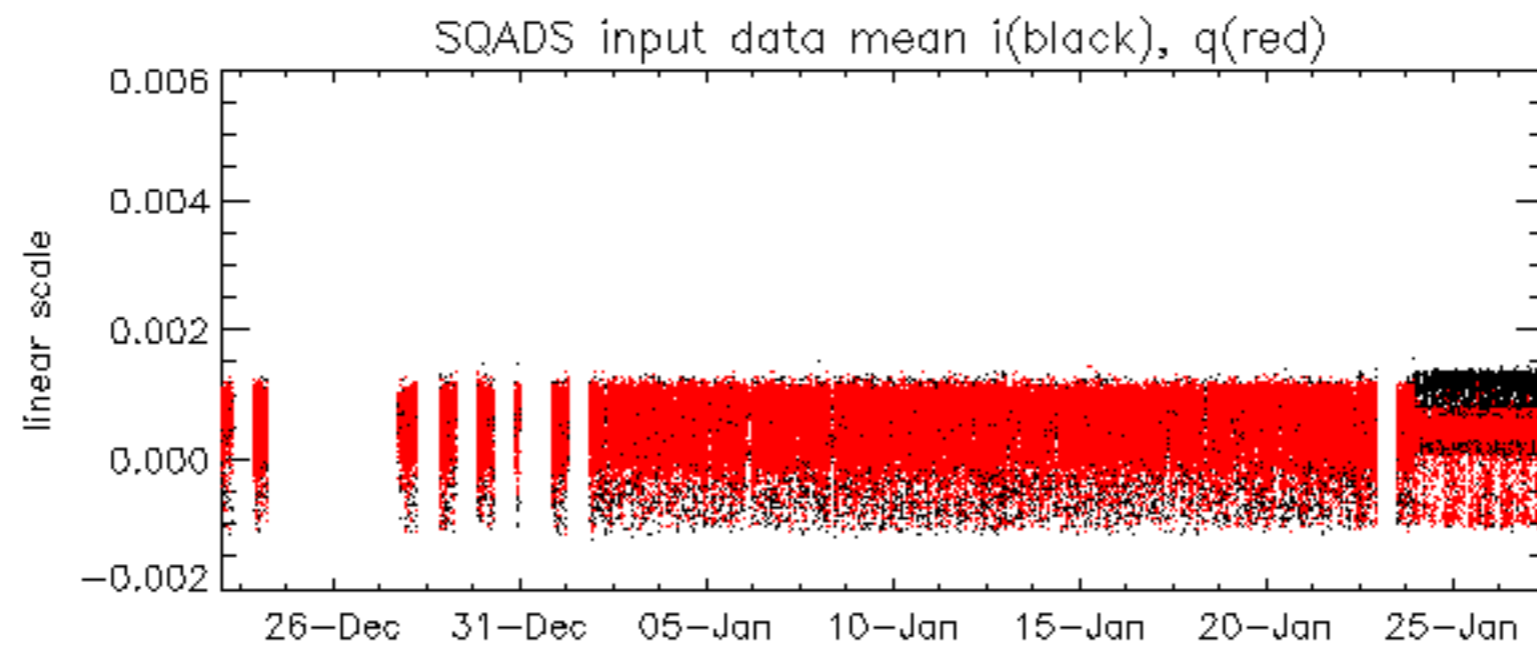
Doppler difference, estimated-predicted 'WVS' 'IS4' descending -error mean of -34.088359 Hz

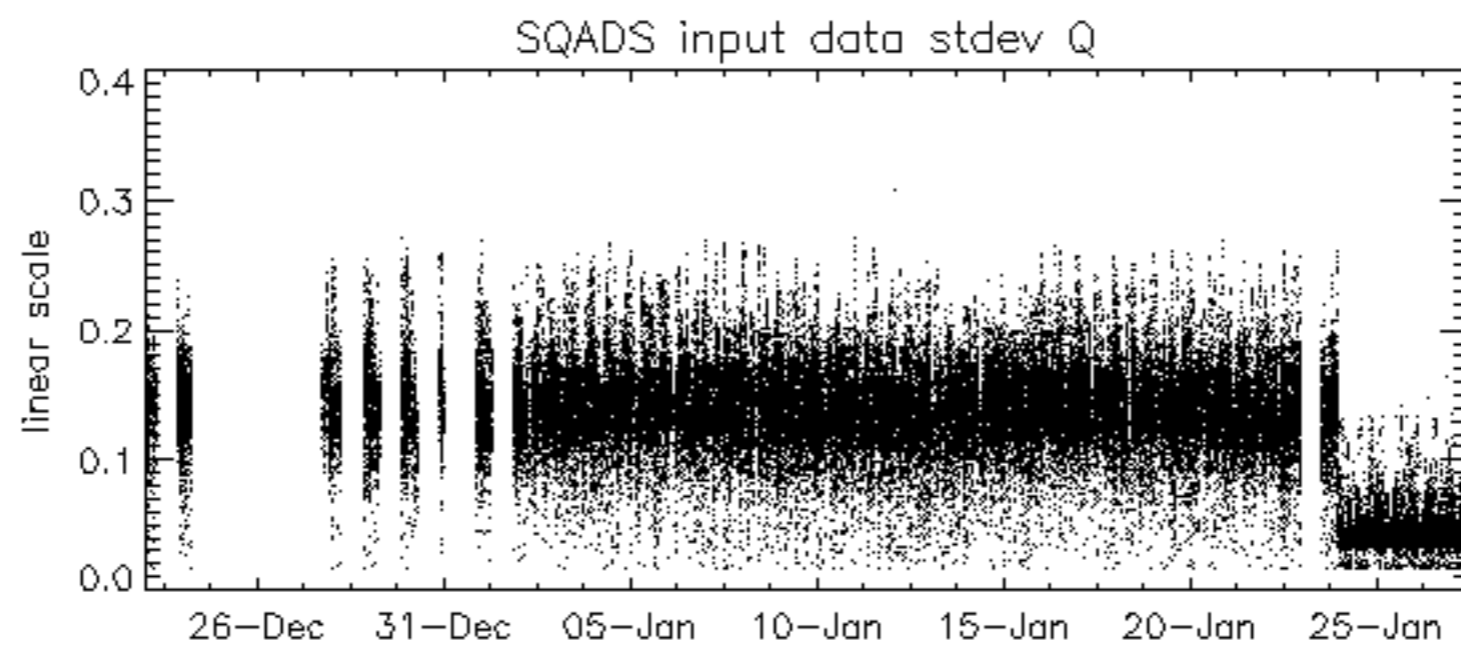
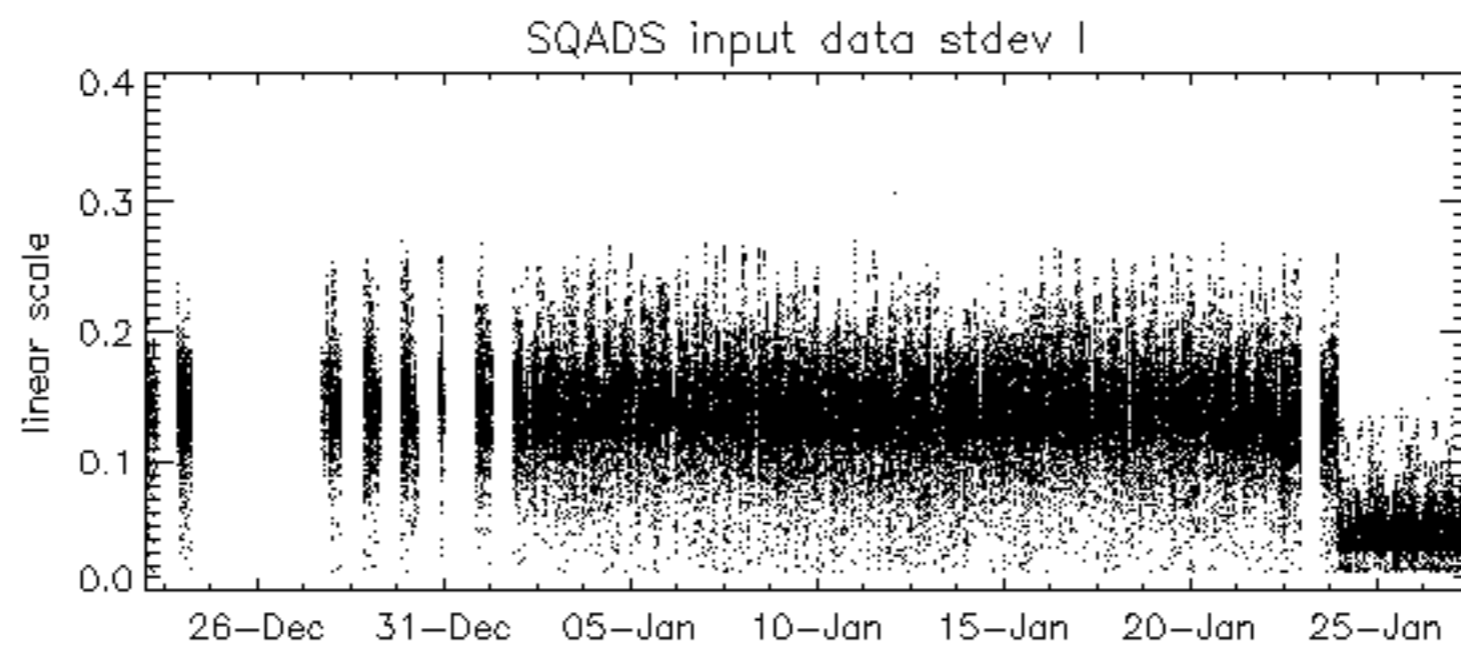
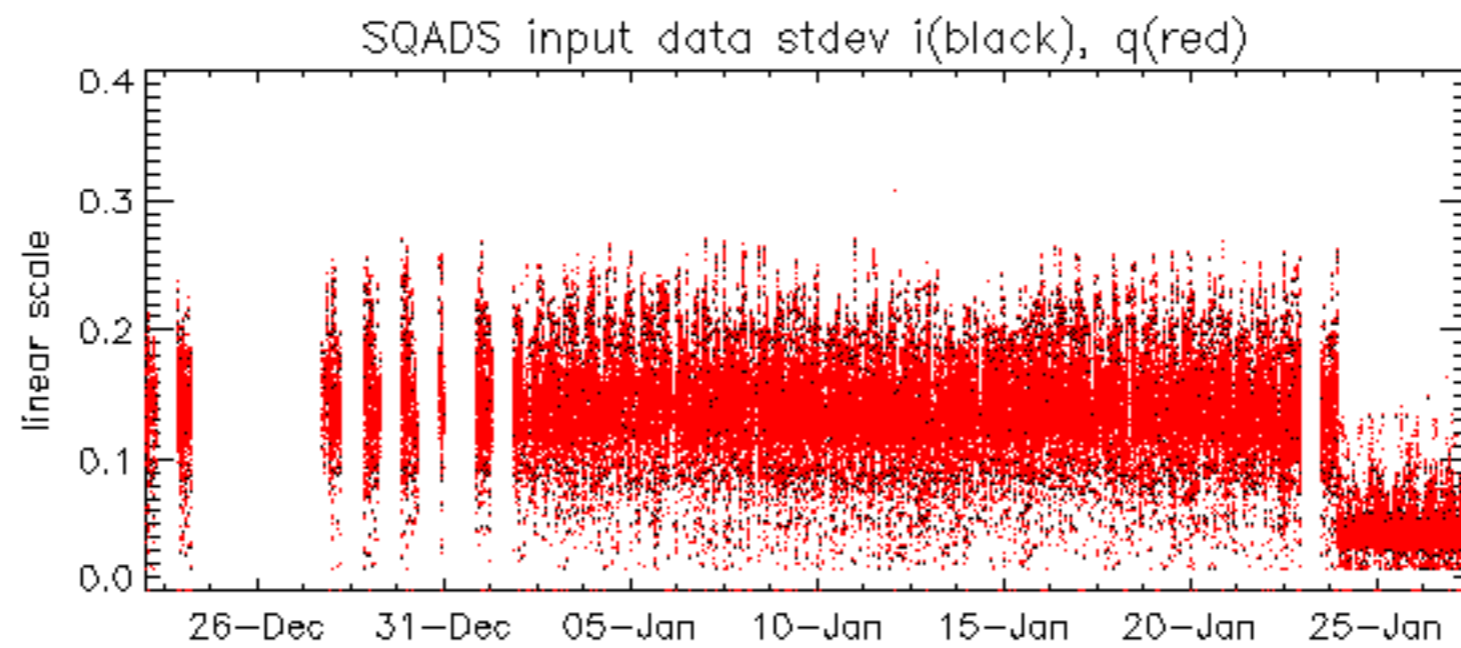


No anomalies observed on available MS products:

No anomalies observed.



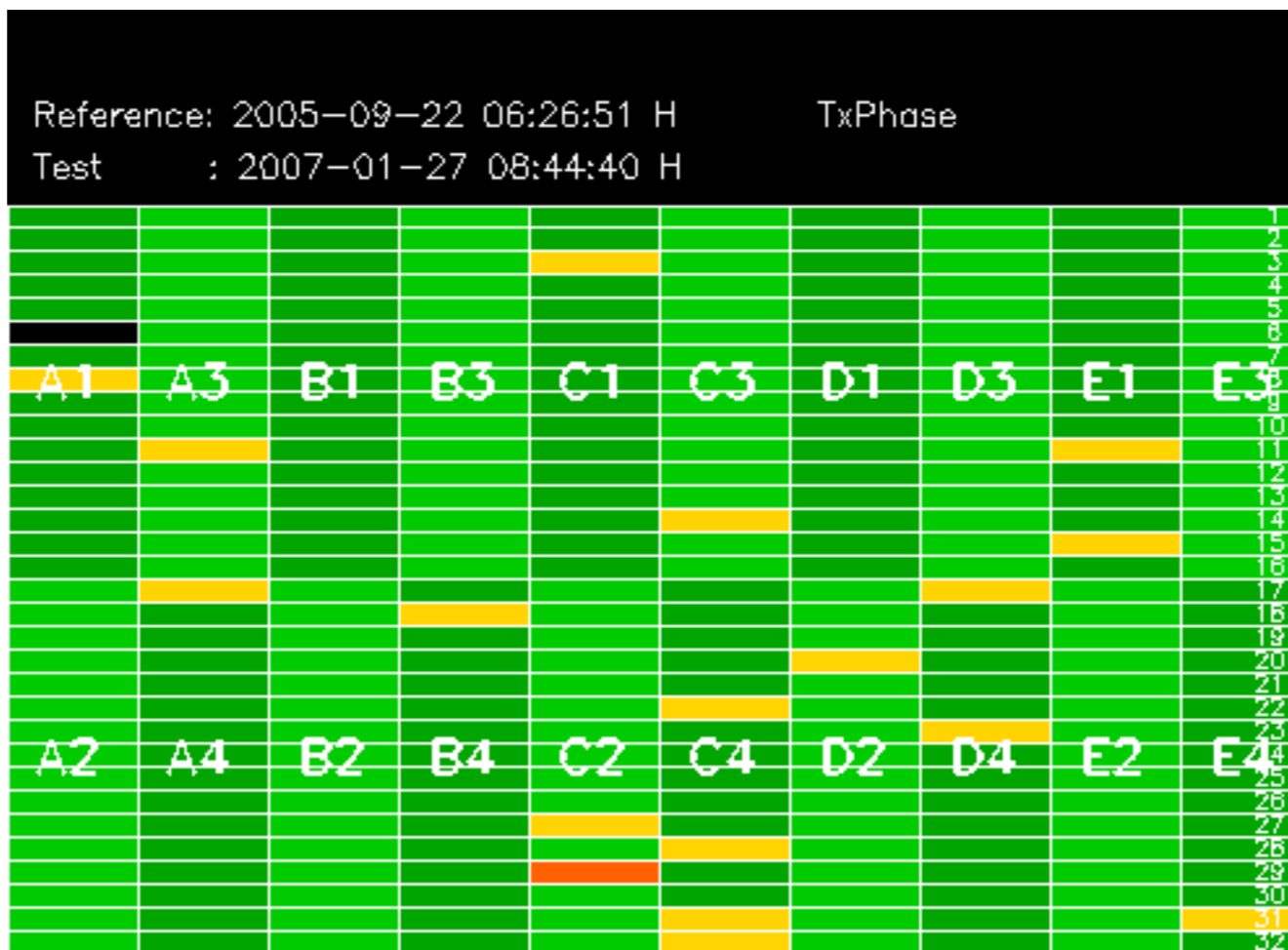




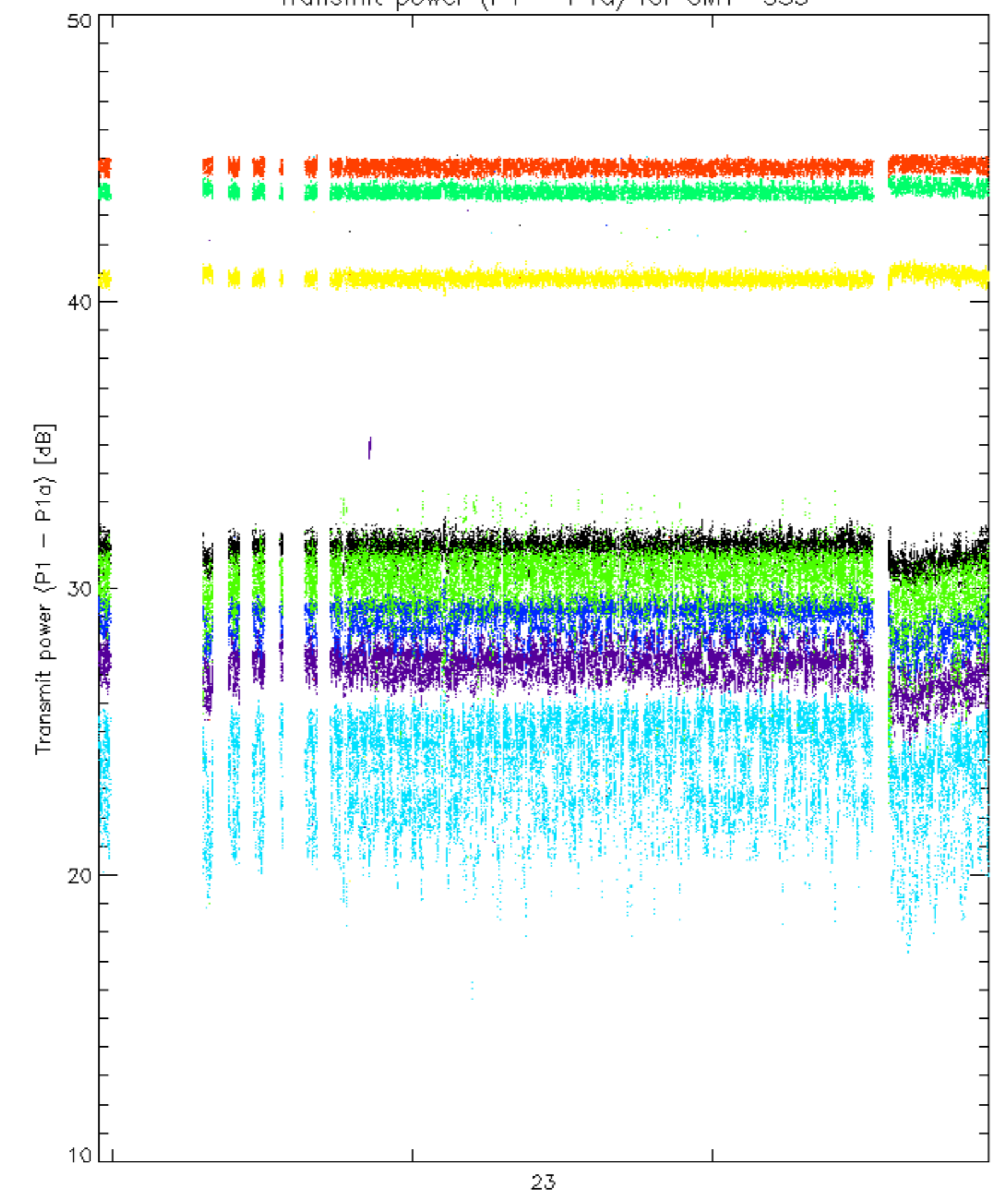
Summary of analysis for the last 3 days 2007012[567]

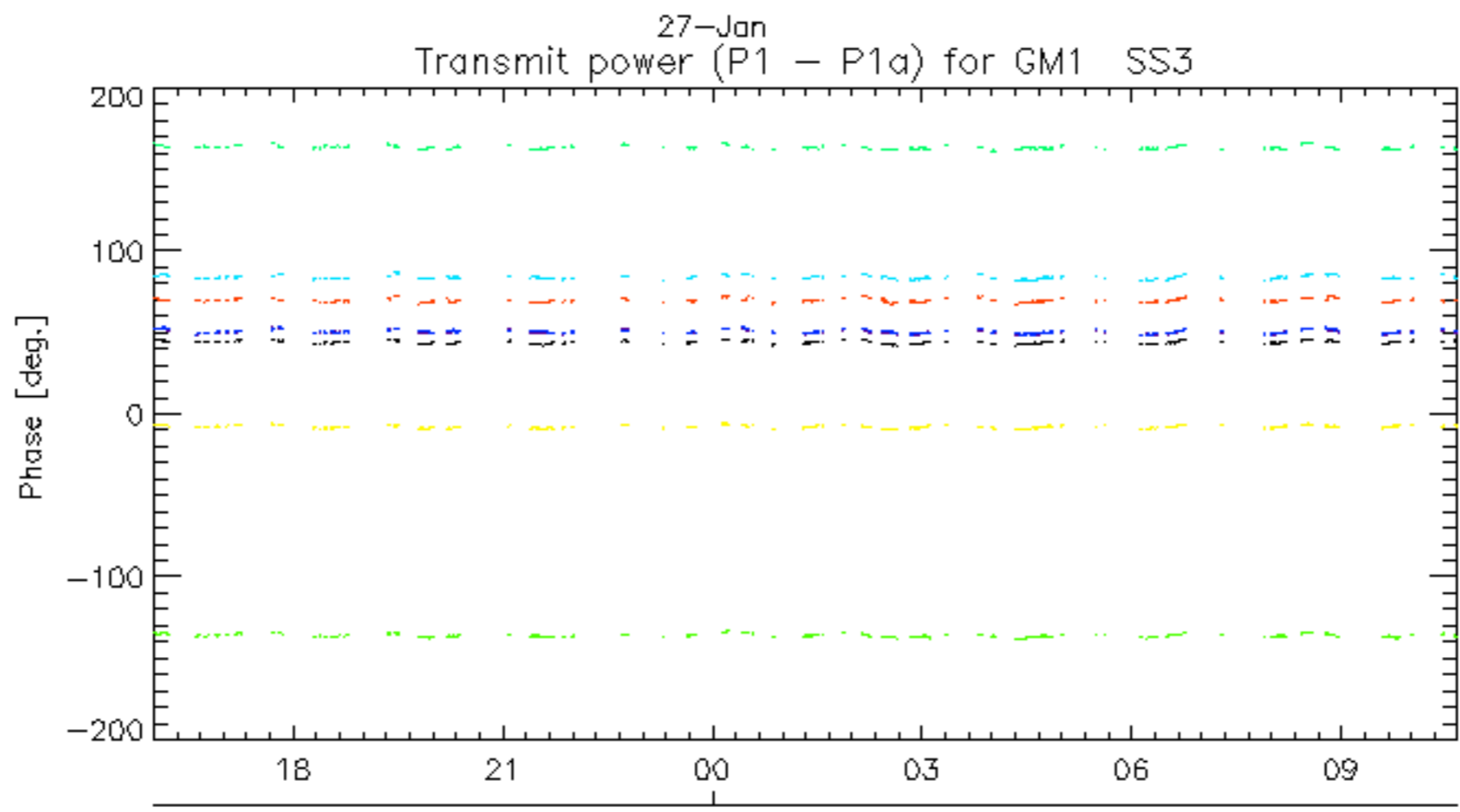
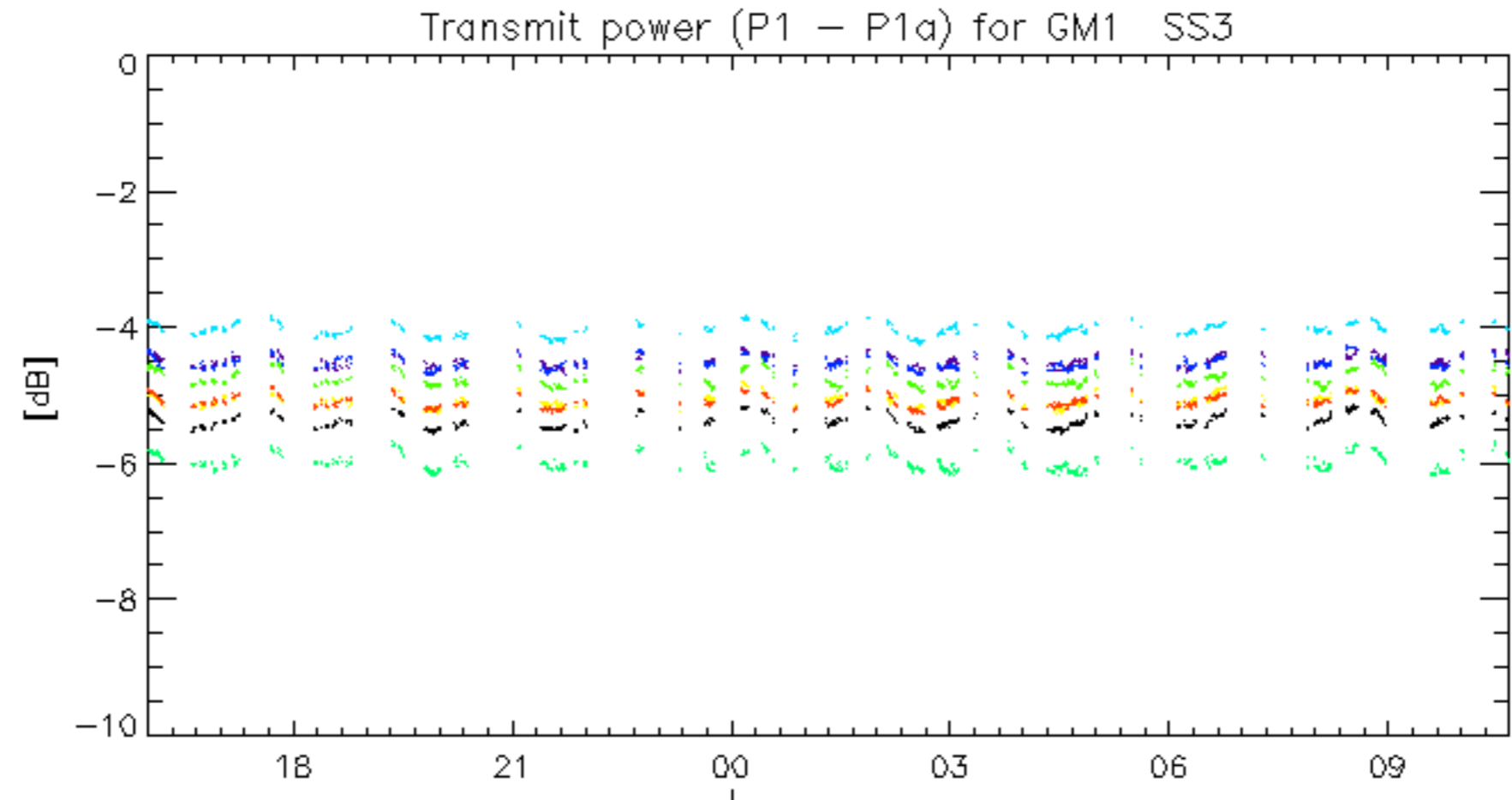
The assumption is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20070125_015755_00000802055_00031_25636_3224.N1	1	19
ASA_WSM_1PNPDE20070125_024515_00000852055_00032_25637_2992.N1	50	10096
ASA_WSM_1PNPDE20070125_152549_000001832055_00040_25645_3606.N1	0	28
ASA_WSM_1PNPDE20070125_170441_00000862055_00041_25646_3646.N1	0	18
ASA_WSM_1PNPDE20070126_145411_00000852055_00054_25659_4744.N1	0	34

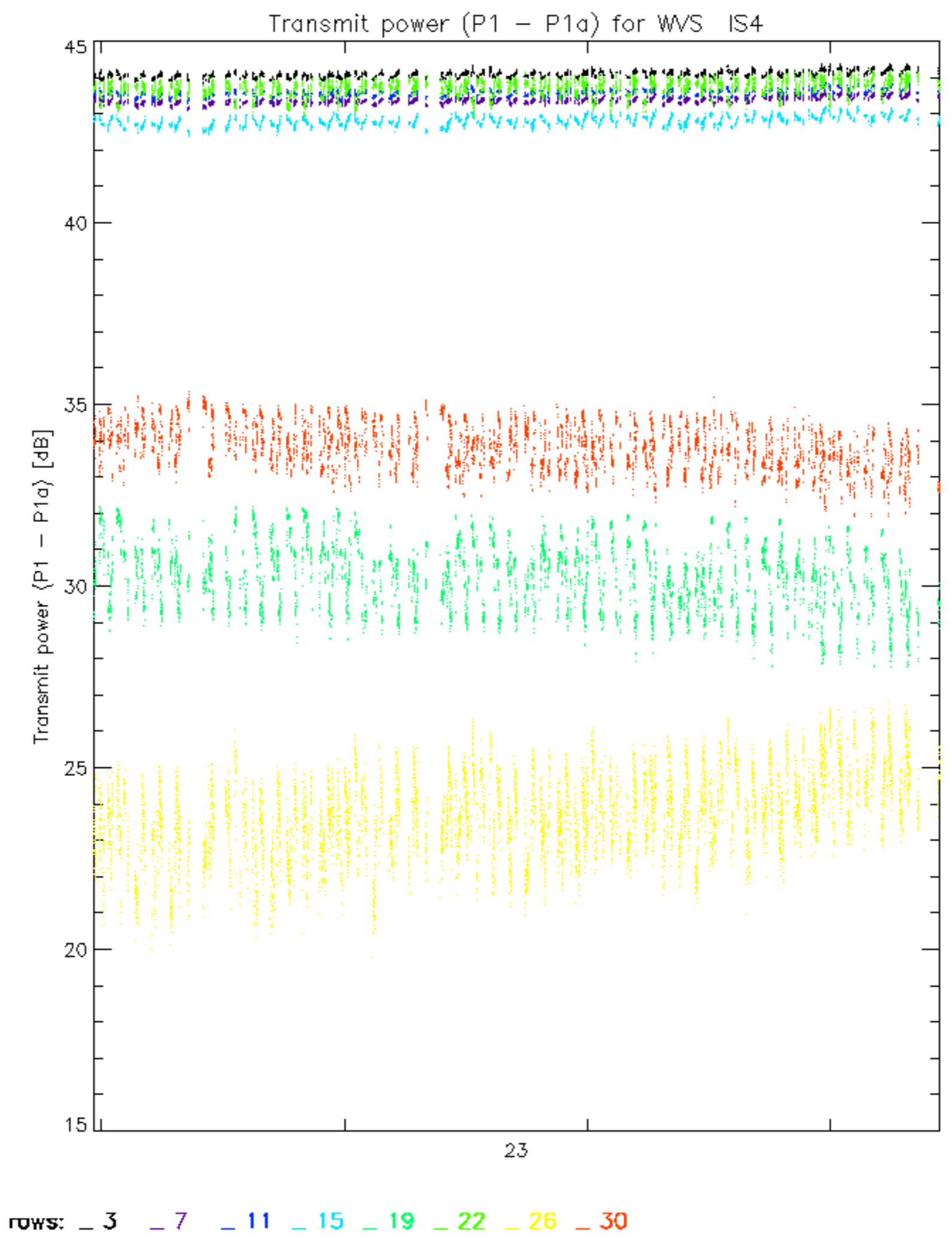


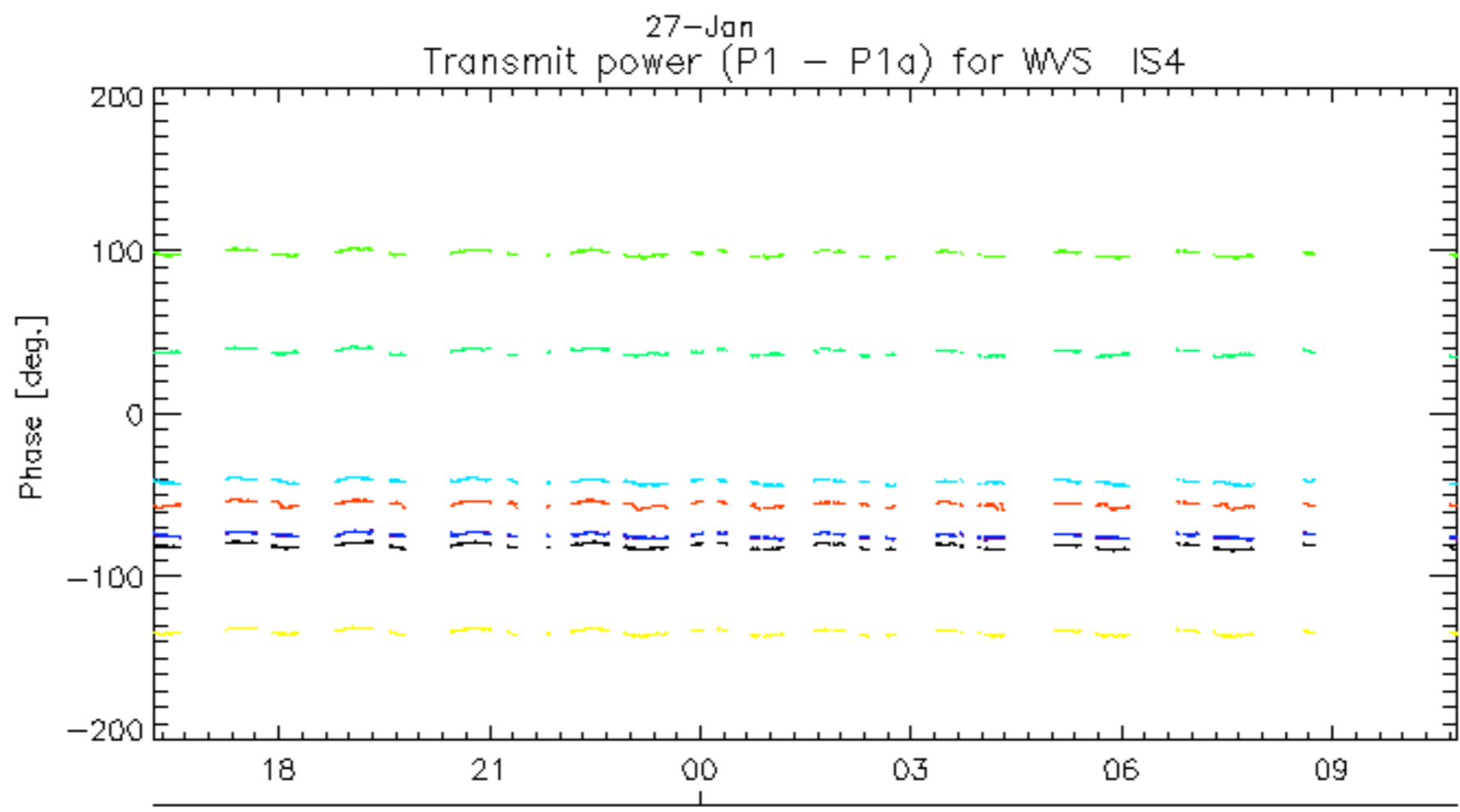
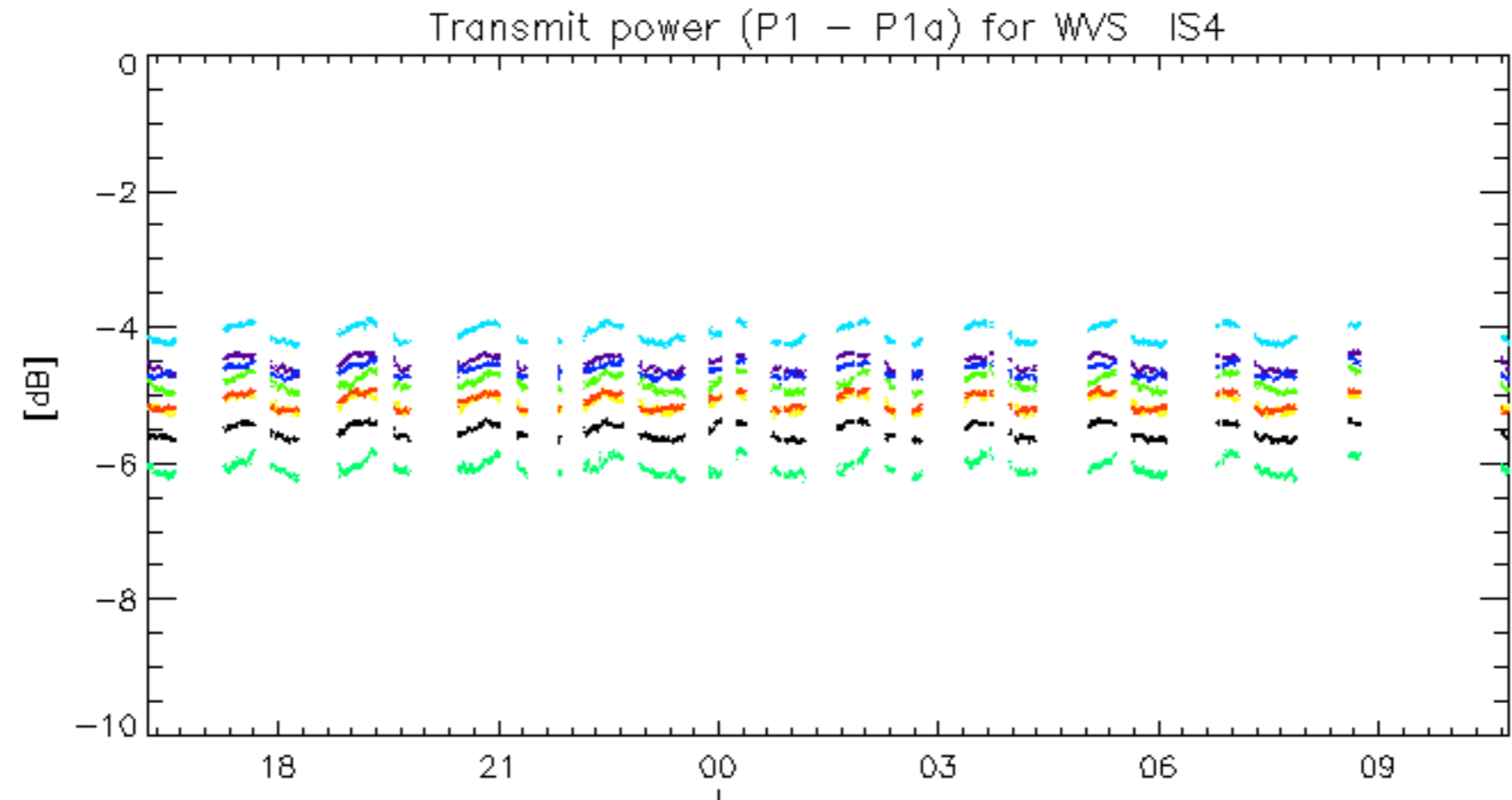
Transmit power (P1 - P1a) for GM1 SS3





rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30





rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No unavailabilities during the reported period.